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ABSTRACT MENTOR PROGRAMME

The Abstract Mentor Programme provides an opportunity for early-career investigators to receive feedback from more experienced researchers on their draft abstracts. The programme links mentees to mentors within the same track to maximize the use of the mentors’ expertise. Participants are also given the chance to take part in an online e-course on conference abstract writing.

This year, 170 mentors reviewed 143 draft abstracts submitted by 110 researchers. 105 of them were submitted to AIDS 2016 and the following were selected:

• 1 Oral Abstract
• 1 Poster Discussion Session
• 30 Poster Exhibition

We would like to thank all volunteer abstract mentors, listed below, who supported early-career HIV researchers improve the quality of their abstracts.

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We extend our special thanks to the large pool of abstract reviewers for the time they dedicated to the success of the conference: presented were selected on the basis of rigorous review and were of the highest scientific quality.

Around 1,000 specialists from around the world volunteered their time and expertise to serve as peer reviewers, helping to ensure that the abstracts presented were selected on the basis of rigorous review and were of the highest scientific quality.

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Tuesday 19 July

ORAL ABSTRACT SESSIONS

TUA01 DRIVERS OF HIV PROGRESSION

TUA0101 MICROBIAL TRANSLLOCATION DURING HYPERACUTE SIV INFECTION


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Background: Within the first weeks of human immunodeficiency virus (HIV) infection, virus replication reaches systemic circulation. Despite the critical, causal role of virus replication in determining transmissibility and kinetics of disease progression, there is limited understanding of the conditions required to transform a small localized transmitted founder population into a large and heterogeneous systemic infection.

Methods: Cynomolgus and rhesus macaques were infected with simian immunodeficiency virus (SIV) and followed longitudinally. Plasma levels of SIV were monitored using qRT-PCR. Bacterial genomic DNA in plasma was characterized and quantified longitudinally using 16S ribosomal deep sequencing and qPCR. ELISA-based assays were used to monitor intestinal permeability (IFABP) and perturbation of bacteria-specific host factors (scCO2 and EndoCab). Flow cytometry was used to track peripheral blood lymphocyte populations. In vitro assays were performed by exposing freshly-isolated peripheral blood mononuclear cells to bacterial lysate prepared from major translocators. Effects of bacterial lysate on CD4+ T cell activation and CD8+ T cell cytotoxicity was measured using flow cytometry. Statistical significance was calculated using ANOVA or Wilcoxon signed-rank testing.

Results: Prior to the peak of viremia, we observed a transient high-level influx of microbial genomic DNA into peripheral blood. This microbial translocation was accompanied by perturbation of bacteria-specific host factors in plasma, as well as expansion of the CD4+CCR5+ T cell compartment. Exposure of freshly-isolated peripheral blood mononuclear cells to lysate prepared from major translocating taxa revealed differential taxa-specific effects on the CD4+CCR5+ T cell compartment and cytokine granule expression within CD8+ T cells.

Conclusions: Altogether, our data identify the influx of microbial products into blood during hyperacute SIV infection as a candidate modulator of early interactions between the antiviral host response and nascent HIV infection. Over the next few months, we will explore the effect of inducing microbial translocation during SIV infection, with particular interest on microbial reactivity within the CD4+CCR5+ target cell compartment.

TUA0102 IMPACT OF A FAT-RICH DIET ON THE PATHOGENESIS OF SIV INFECTION IN THE AFRICAN GREEN MONKEY HOST

C. Yu1, T. He2, G. Hare-t-Richter3, D. Frankl4, B. Polisicchio5, E. Brocq-Cofano6, D. Ma1, J. Stack7, R. Tracy8, A. Landay9, C. Wilson10, C. Apetrei11, J. Pandrea12

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Background: High dietary fats were reported to induce intestinal dysbiosis, drive gut inflammation and breakdown the intestinal epithelial barrier, granting intestinal flora access to the bloodstream. As microbial translocation is a major determinant of the chronic immune activation and HIV/SIV disease progression, we investigated whether fat diet impacts HIV/SIV pathogenesis.

Methods: The nonprogressive African green monkey (AGM) model of SIV is an ideal system to assess the role of fat diet on disease progression, because they do not develop SIV-related intestinal dysfunction. We included 4 AGMs that received a fat diet prior and after SIVab infection, and 5 controls in which the impact on key parameters of SIV infection such as: viral loads, CD4+ T cell counts, microbial translocation, immune activation and inflammation were compared and contrasted.

Results: LPS levels increased in the AGMs receiving fat diet prior and after SIV infection. Fat-rich diet also resulted in increased immune activation (HLA-DR CD38, CD69 and Ki-67) and inflammation (inflammatory cytokines IL-6, IL-17 and C reactive protein), leading to a prolonged depletion of CD4+ T cells compared to controls. However, these significant alterations of key parameters that are associated with the lack of disease progression in natural hosts of SIVs did not reach the levels described during progressive HIV/SIV infection. Furthermore, these changes did not result in significant increases in the levels of viral replication in the AGMs receiving a fat diet.

Conclusions: Administration of fat-rich diet resulted in alterations of markers of pathogenicity in the nonprogressive SIV infection of AGMs. Although not major, these changes were significant, suggesting that a diet very rich in fats may negatively impact HIV pathogenesis, especially if combined with other behavioral risk factors reported to impact gut integrity or systemic inflammation, such as alcohol consumption, drug usage and smoking. Detailed studies on the correlations between fat diet, alterations in the intestinal microbiota, metabolic markers, liver function and SIV progression to AIDS are in progress.

TUA0103 HIV INFECTION IS ASSOCIATED WITH PRESERVATION OF MAIT CELLS IN THE LUNGS BUT ALTERATION OF THEIR PHENOTYPE AND T CELL RECEPTOR REPertoire


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Presenting author email: emily.wono@ukzn.ac.za

Background: Tuberculosis remains the leading cause of death in HIV-positive people. A better understanding of the impact of HIV on lung immunity may lead to novel immunotherapeutic interventions. MAIT cells are tissue-homing donor-unrestricted T cells with broad anti-microbial activity. HIV infection causes early and irreversible depletion of MAIT cells in the peripheral circulation, but the effect of HIV on MAIT cells in the lungs is unknown.

Methods: We FACS-sorted MAIT cells from bronchoalveolar lavage (BAL) fluid and peripheral blood of HIV-infected and HIV-negative patients from Durban, South Africa. MR1-SOPRU tetramer staining was used to identify and phenotype MAIT cells based on expression of CD3, CD4, CD8, TRAV1-2, CD161 and CD26. High throughput bias-controlled TCR sequencing (Immunoseq) of sorted populations enabled detailed analysis of TCR CDR3a usage.

Results: HIV infection was associated with depletion of MAIT cells in the peripheral circulation (median %SOPRU of CD3+CD4-lymphocytes was 1.09% in HIV-negative vs. 0.34% in HIV-positive, p = 0.027). In contrast, MAIT cells were not depleted in the BAL compartment during HIV infection (0.68% in HIV-negatives vs. 0.89% in HIV-positives, p = non-significant). In HIV-negative individuals, 77.1% of circulating MAIT cells expressed the expected CD161++CD26++ phenotype, but only 43.8% of BAL MAITs expressed this phenotype (p= 0.0001). In HIV infected lungs, the frequency of MAITs with the CD161++CD26++ phenotype was significantly higher (57.6%) than in HIV-negative lungs (p=0.021). MAIT cells with canonical MAIT TCR CDR3a rearrangements were highly shared between donors and clonally expanded in the BALs. MAIT cells with non-canonical TCRs were unique to individuals and more frequent in HIV-infected.

Conclusions: We report for the first time that MAIT cells in the lungs are numerically preserved but phenotypically and clonotypically altered by HIV infection. We confirm previous reports that circulating MAIT cells are depleted in HIV. Our results suggest that peripheral MAIT cell depletions observed in HIV infection may be due to compartment-specific microbial alterations and/or tissue redistribution. Further study is needed to determine the mechanisms underlying the altered phenotypes of lung-resident MAITs and whether these can be targeted to improve anti-microbial lung immunity in people living with HIV.
TUAAO 104

CELL-ASSOCIATED HIV-1 UNSPLICED RNA LEVEL PREDICTS BOTH TIME TO VIROLOGICAL SUPPRESSION AND DURATION OF POST-TREATMENT VIROLOGICAL CONTROL IN PATIENTS TREATED WITH TEMPORARY EARLY ART

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Background: For the improved design of strategies towards HIV-1 functional cure, it is important to identify biomarkers that could predict the duration of post-treatment virological control.

Methods: We studied 46 patients that received 24 or 60 weeks of temporary ART initiated at primary HIV infection (PHI). Patients were treated with a quadruple-triple-class ART regimen. Cell-associated HIV-1 nucleic acids were quantified by seminested real-time PCR.

Results: All patients achieved virological suppression (VS) (plasma HIV-1 viremia <50 copies/ml) with a median of 21 weeks. We first assessed the predictive power of plasma viremia, total HIV-1 DNA, unspliced (US) cell-associated HIV-1 RNA, CD4+ T-cell count, and CD4:CD8 ratio, measured at PHI, for the time to VS. In the univariate analysis, both plasma viremia and US RNA were predictive for time to VS (p<0.016 and p<0.0033, respectively, log-rank test). In the multivariate Cox regression, US RNA at PHI was the only significant predictor of the time to VS (HR=0.65 per 1 log₁₀ increase in US RNA, 95% CI, 0.48-0.87, p=0.0043). Subsequently, the same biomarkers were longitudinally quantified every 12 weeks during ART. All 45 patients who discontinued ART experienced virological rebound (VR) (plasma viremia >50 copies/ml) within 9 months after therapy interruption. We assessed the predictive power of the last measurements of the biomarkers on ART before the therapy interruption, as well as of the duration of temporary ART, for the time to VR (the duration of post-treatment virological control). Again, US RNA was the only significant predictor of the time to VR (HR=0.29 for patients with US RNA levels below vs. above the median, 95% CI, 0.10-0.85, p=0.021, log-rank test).

Conclusions: It is important to identify biomarkers that could predict the duration of post-treatment virological control.

TUAAO 105

HIV-INFECTED PATIENTS WITH EXCEPTIONAL TCD4+ RECOVERY DURING EFFICACIOUS HAART PRESENT A DISTINCT T CD4+ DIFFERENTIATION PATTERN, HIGHER CD31 NEG NAÏVE CELLS AND A SMALLER HIV RESERVOIR


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Background: Clinical outcome of HIV infected patients relies on the recovery of CD4+ T cells after HAART. However, this immune recovery is variable and difficult to predict. Here we present a cohort of patients with undetectable viral load and a follow up of 48 months of HAART who reached CD4+ T cell counts >1000 cells/mm³ (Hypers) and compare them to those who reached between 350 and 999 CD4+ T cells/mm³ ( Concordants). Their demographic data, immune recovery kinetics, and T CD4+ subsets phenotype as well as their integrated HIV DNA were analyzed.

Methods: Retrospective data were obtained from the charts of 447 undetectable patients on their first ARV regimen and a follow up of 48 months at the INCMNSZ HIV cohort. For immune phenotype and reservoir analysis, 20 Hypers and 19 Concordants matched by sex and age and T CD4+ nadir were available. The following subsets were analyzed by Flow cytometry on whole blood: naive T-cells, central memory T-cells, effector memory and terminally differentiated. A two-step quantitative real-time PCR (qPCR) method to detect HIV-1 integrated DNA was used, with a DNA pre-amplification using Alu andLTR specific primers. Proviral DNA levels were determined by a second round SYBR Green-based qPCR assay in reference to a standard curve.

Results: 28 Hypers (6%) and 354 Concordants (79%) were identified. Hypers had a higher proportion of CD4+ naïve T-cells (37.6 vs 24.8, p< 0.05), and a low proportion of CD4+ EM T Cells (27.9 vs 39.4, p< 0.05), with similar results found in CD8+ T Cells. Hypers presented a higher percentage of CD4+CD45RA+CD31neg naïve cells. There was no difference in total integrated HIV DNA copies per 10⁶ PBMC (1729 vs 3062, p=0.19), however the DNA/CD4 ratio of Hypers was significantly lower (1.2 vs 2.89, p<0.05).

Conclusions: T cell recovery of Hypers occurs very early suggesting cell redistribution. However, on the long term, their T CD4+ level is driven by non-lymphocentral-naïve cells that are less likely to be HIV infected, thus diluting HIV reservoir. Understanding better immune recovery after HAART and its impact on viral reservoir could contribute to design more effective therapeutic strategies.
months, PHIV+ youth viral load (VL) and CD4 are abstracted from medical records. Data on psychiatric disorders, sexual behavior, substance use disorders (SUD), and young adult milestones were compared across HIV status and age groups. Descriptive statistics, and chi-square and t-tests for comparing groups were used.

**Results:** Most participants were female (55%), African-American (67%), living in impoverished communities (100%); mean age was 22 years (range 15-38). There were no HIV-status differences in rates of psychiatric disorder (28%), SUD (27%), or past 3-month condomless sex (36%). At this wave, only 29% of PHIV+AVA had a psychiatric disorder and 25% SUD. Most PHIV+AVA aged 219 years had achieved young adult milestones: 78% had graduated high school, 29% taken college classes; 53% were currently working or in school; 86% had ever had sex; and 41% were in romantic relationships. Achieving milestones did not differ by HIV status. Among all PHIV+, most had positive health outcomes: CD4 ≥500cells/mm³ (79%); CD4 ≤500cells/mm³ (44%) and VL<1000copies/ml (70%); 46% had VL<50copies/ml. Older age was associated with CD4 ≤500cells/mm³ [X²=7.01, df=2, p<0.03] and having a psychiatric disorder was associated with VL>1000copies/ml [X²=4.29, df=1, p<0.038].

**Conclusions:** In one of the few ongoing US-based studies with this population, we found, despite significant biopsychosocial risks, many PHIV+ AYA have positive health and mental health outcomes and achieve AYA milestones comparable to PHIV- and other vulnerable AYA. Identification of protective factors conferring resilience can inform evidence-based practice for millions of PHIV+ youth world-wide.

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**TUABO 102**

**THE YOUTH TREATMENT BULGE IN SOUTH AFRICA: INCREASING NUMBERS, INFERIOR OUTCOMES AMONG ADOLESCENTS ON ART**

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**Background:** Children perinatally-infected with HIV surviving due to pediatric ART are now aging into adolescence. Yet monitoring adolescent treatment programs remains difficult as large, well-defined cohorts are rare. We quantify the size adolescent ART population and proportion virologic suppressing using a national patient database.

**Methods:** Using NHLS data on all public sector viral load tests nationally since 2004, we analyzed information on all patients aged <20 years at test date. We estimated the total number of patients accessing ART care in a given year as the number of individual patients with viral load results. Data were stratified by age and year (2004-2014) to assess shifts in age distribution on ART over time. We also assessed proportions virally suppressed in 2014, by age.

**Results:** A total of 929,274 person-years were analysed. There was a steady increase in number of children on ART under 5-years from 2004-2011, after which numbers stabilized, likely due to PMTCT successes. There were large increases in numbers of adolescents on ART, rising 10- to 20-fold from 2004-2007 to 2012-2014. Further increases are expected in 15-19 year-olds for the next decade, after which the younger cohort ageing into adolescence will decline. In 2014, the proportion virally suppressed was 71% among 5-9y (95%CI 71-72%), 65% among 10-14y (95%CI 65-66%), and 61% among 15-19y (95%CI 60-61%).

**Conclusions:** The rollout of PMTCT and pediatric ART led to a demographic bulge of HIV-infected adolescents and subsequently large numbers of adolescents receiving ART. Declining viral suppression among older adolescents suggests an urgent need to improve care for this vulnerable and growing population. Laboratory datasets represent an important tool for national and local resource planning and allocation.

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**TUAB0103**

**LONG-TERM TRENDS IN MORTALITY AND AIDS-DEFINING EVENTS AMONG PERINATALLY HIV-INFECTED CHILDREN ACROSS EUROPE AND THAILAND**

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**Background:** There are limited data on the prognostic effects of time-updated covariates on long-term morality rates of perinatally HIV-infected children after starting ART. We analysed individual patient data from 19 cohorts in 16 European countries and Thailand in EPPICC.

**Methods:** Perinatally HIV-infected children aged < 18yrs starting cART were followed until death, loss to follow-up (LTFU), transfer to adult care, their 21st birthday or last visit to 31/12/2013. Crude rates of death and first AIDS-defining events were calculated. Baseline and time-updated risk factors for death ≤/>6 months of cART and progression to AIDS were assessed using inverse-probability-censoring-weighted Cox models to account for informative censoring of LTFU.

**Results:** Of 3527 children, 32%, 20%, 18% and 30% were from the UK/Ireland, Thailand, Russia/Ukraine, and the rest of Europe respectively. At cART initiation, median (IQR) age was 5.2(1.4-9.3) years and 42% had severe WHO immunological stage. Median follow-up was 5.6(2.9-8.7) years. There were 94 deaths and 174 first AIDS-defining events, of which 43(46%) and 79(45%) occurred within 6 months of cART
TUAB0105LB

SWITCHING TO SECOND-LINE ANTIRETROVIRAL THERAPY (ART) IN HIV-INFECTED CHILDREN: A CIPHER COHORT COLLABORATION GLOBAL ANALYSIS

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Background: There are conflicting data on time to switch from first-line to second-line ART in children. Here we present the first global estimates.

Methods: Individual-level data were pooled from 12 cohort networks within CIPHER. Children aged <18 years initiating combination ART (≥2 nucleoside reverse-transcriptase inhibitors (NRTI) plus non-NRTI (NNRTI) or boosted protease inhibitor (PI)) were included. Switch to second-line was defined as: (i) change of ≥1 NRTI plus either change in drug class (NNRTI to PI or vice versa) or PI change; (ii) change from single to dual PI; or (iii) addition of new drug class. Cumulative incidence curves assessed time to switch, with death and loss to follow-up (LTFU) as competing risks.

Results: Of 95,194 children included, 18% were from South Africa and 72% from rest of Sub-Saharan Africa (SSA). At ART start, median (IQR) age was 3 (2.1-6.8) years, CD4% 15% [9-21%], 42% had AIDS, 89% and 11% initiated NNRTI-based and PI-based ART, respectively. Median duration of follow-up from ART initiation was 26[9-51] months; 1% died, 26% were LTFU and 20% transferred out. Overall 4266 (4.5%) switched to second-line at median of 33.8[18.5, 55.1] months. The proportion switching at 3 years after ART start varied significantly across regions from 1.6% (95% CI 1.5, 1.7) in SSA to 26.8% (20.6, 33.3) in North America (Figure). A higher incidence of switch was seen in children aged10-14 years at ART start compared to younger children in all regions except North America, in settings with routine viral load monitoring, and in children initiating NNRTI-based ART compared to PI-based ART in all regions except SSA.

Conclusions: We found wide regional variations in the cumulative incidence of switch to second-line, with higher incidence among children initiating ART aged≥10 years in those settings with routine viral load monitoring. High rates of transfer and LTFU mean these estimates maybe the lower bound of the true switch rates.

TUAB0104

WHAT DOES ADOLESCENT TRANSITION MEAN IN SUB-SAHARAN AFRICA? PREDICTORS OF TRANSFER IN SOUTHERN AFRICAN PERINATALLY HIV-INFECTED ADOLESCENTS

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Conclusions: Among 3820 children included, estimated probability of transfer by age 13 years and those in settings with routine viral load monitoring. High rates of transfer and LTFU mean these estimates maybe the lower bound of the true switch rates.
TUAB0201
CASH, CARE AND HIV-COMMUNITY: SOCIAL PROTECTION IMPROVES ADOLESCENT ART-ADHERENCE IN SOUTH AFRICA

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Background: Low ART-adherence amongst adolescents causes morbidity, mortality and onwards HIV-transmission. Reviews find no effective adherence-promoting interventions. This study examines associations of seven potential social protection factors with adherence, in the world’s largest community sample of HIV+ adolescents.

Methods: N=1059 adolescents: all 10-19 year olds ever ART-initiated in 53 government healthcare facilities in a health district of South Africa’s Eastern Cape were traced and interviewed in 2014-15. 90.1% of the eligible sample was included (4.1% adolescent or caregiver refused, 0.9% severe cognitive disability, 1.2% excluded and 3.7% unable to trace). Potential social protection predictors were ‘cash’: food security, school fees/materials, clothing; ‘care’: HIV support group, sports group, positive parenting and high parental supervision. Analyses used multivariate regression with all potential predictors entered simultaneously, interaction and marginal effects models in SPSS and STATA.

Results: Past-week self-reported ART non-adherence was 36%, associated with increased opportunistic infections (p<.002 SD.09). Postnatally-infected and rural adolescents were at highest risk, age and gender did not predict adherence. Analyses controlled for covariates: age, ethnicity, maternal/paternal death, distance to clinic and general health. Independent of these, three cash and care social protection factors were associated with reduced non-adherence: food security (2 meals/day) (OR.60, CI.44-.81, p<.001); high parental/caregiver supervision (i.e. monitoring of adolescent activities) (OR.62, CI.47-.82, p<.001); and attending an HIV support group (OR.54, CI.36-.83, p<.004). Effects of combination social protection were not multiplicative, but were additive in predicted probabilities controlling for co-factors. With no protection factors, non-adherence was 52%, with any one protection it was 37-40%, and with all three social protections, 18%.

Conclusions: Combination social protection ‘cash plus care’ improves adolescent ART-adherence. Specifically, food security, parenting support programmes and expanded provision of HIV support groups have potential to improve adherence, and subsequently adolescent HIV-survival and HIV-prevention.

TUAB0202
THE EFFECT OF COMMUNITY ART GROUPS ON RETENTION-IN-CARE AMONG PATIENTS ON ART IN TETE PROVINCE, MOZAMBIQUE

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Background: ART programs in many African countries have high attrition rates (death or loss-to-follow-up (LTFU) combined). In 2008 patients on ART in Tete Province, Mozambique, began forming community ART groups (CAGs) to overcome barriers to retention-in-care (RIC). CAGs are peer groups in which members take turns to collect ART at the health facility. Patients on ART can either join a CAG or remain in clinic based care. We conducted a retrospective cohort study among adult patients on ART to quantify the effect of CAG versus individual care on RIC.

Methods: Information to May 2012 was collected from patient records at eight health facilities. Patients who started ART >6 months before CAGs started at a health facility, or aged <15 years at ART initiation, were excluded. Furthermore, patients had to remain in care for at least six months after starting ART to be included in the analysis. Survival analysis was used to compare RIC among patients in CAGs and patients in individual care, with time to joining a CAG treated as an irreversible time-dependent covariate. Cox regression was used to determine hazard ratios (aHR) for attrition, adjusted for age, gender, and health facility.

Results: Of the 2,683 patients in the analysis, 62.6% were female. The median age was 32 years. 12-month and 24-month RIC from point of eligibility were respectively 99.3% (95% CI: 97.8% - 99.8%) and 96.3% (95% CI: 94.4% - 97.6%) and among patients in CAGs, and 97.3% - 90.2%) and 81.3% (95% CI: 78.9% - 83.4%) among those in individual care (p<0.001). CAG patients were more than four times less at risk to die or to be LTFU (aHR = 0.22; 95% CI: 0.15 - 0.32; p<0.001).

Conclusions: RIC was substantially better among patients on ART in CAGs than those in individual care. While exclusion of the first 6 months on ART reduced the potential impact of survivor bias, residual confounders may contribute to the differences observed. Nevertheless this study confirms that patient-led ART distribution through CAG results in high RIC, and supports the Mozambique Ministry of Health decision to implement CAG nationally.

TUAB0203
ONE YEAR RETENTION IN COMMUNITY VERSUS CLINIC-BASED ADHERENCE CLUBS FOR STABLE ART PATIENTS IN SOUTH AFRICA: FINDINGS FROM A RANDOMIZED CONTROLLED TRIAL

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Background: Adherence clubs, where groups of 25-30 patients stable on antiretroviral therapy (ART) meet for counselling and medication pick-up, is an innovative model to retain patients in care and facilitate task-shifting. Adherence clubs can be organized at a clinic or community venue. We performed a randomized controlled trial to compare clinic retention between community and clinic-based adherence clubs.

Methods: Stable patients with undetectable viral load at Witkoppen Health and Welfare Centre, in Johannesburg, South Africa, were randomized to either a clinic- or community-based adherence club. Clubs were held every other month and were run by an HIV counsellor. All club participants received annual viral load monitoring and annual medical exam by a clinician at the clinic. Patients became ineligible for club participation and were referred back to routine care if they missed a club visit without ART pickup within 5 days, had two consecutive late ART pickups, developed a comorbidity requiring closer monitoring, or had viral rebound. We compared the proportion referred back to routine care between clinic and community-based clubs in the first 12 months of club participation.

Results: From February 2014-May 2015, we randomized 770 adults into 12 pairs of clubs-- 378 (49%) clinic-based, and 392 (51%) community-based. Characteristics were similar by arm: 66% female, 88% on fixed-dose combination ART, and median CD4 count of 502 cells/mm3. The proportion referred back to routine care was greater among community-based clubs (26%, n=102) compared to clinic-based clubs (19%, n=70, p=0.012) (Figure). Viral rebound was uncommon and comparable by club type (3% in clinic and 2% in community, p=0.594). Among those referred...
back to routine care, missing a club visit was the most common reason in both club types (61%).

**Conclusions:** Within the first year of adherence club participation, drop out was higher among community-based compared to clinic-based clubs.

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**TUAB0204**

**IMPROVED ADHERENCE TO ANTIRETROVIRAL TREATMENT OBSERVED AMONG CHILDREN WHOSE CAREGIVERS HAD POSITIVE BELIEFS IN MEDICINE**

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**Background:** CHAPAS-3 trial investigated how the views of the child’s caregiver towards medicine affected the adherence of their child to fixed-dose combination ART.

**Methods:** 478 HIV-infected children aged one month to 13 years were randomized to one of three first-line ART regimens in Uganda and Zambia. Children were ART naïve (n=365) or ART experienced (n=113) at enrolment. We measured adherence to ART using medication event monitoring systems (MEMS) caps, and caregivers’ views towards all medicines and medicines currently prescribed using the Beliefs in Medicine Questionnaire (BMQ). MEMS caps data were collected during weeks 0-18 and 54-72. The BMQ was completed by caregivers at weeks 0, 6, 24, 48, 72 and 96.

We used repeated measures linear regression models to investigate associations between MEMS adherence in weeks 0-18 and BMQ at weeks 0 and 6 (period 1), and MEMS adherence in weeks 54-72 and BMQ in week 48 (period 2).

**Results:** MEMS adherence and BMQ data were available from 271/365 (74%) ART naïve and 97/113 (88%) ART experienced children in period 2. We present results from the ART naïve group in period 1, similar results were observed in period 2, and naïve and 97/113 (86%) ART experienced children in period 1, and 235/335 (70%) naïve and 98/112 (88%) experienced children in period 2. We present results from one of three first-line ART regimens in Uganda and Zambia. Children were ART naïve (n=365) or ART experienced (n=113) at enrolment. We measured adherence to ART using medication event monitoring systems (MEMS) caps, and caregivers’ views towards all medicines and medicines currently prescribed using the Beliefs in Medicine Questionnaire (BMQ). MEMS caps data were collected during weeks 0-18 and 54-72. The BMQ was completed by caregivers at weeks 0, 6, 24, 48, 72 and 96.

We used repeated measures linear regression models to investigate associations between MEMS adherence in weeks 0-18 and BMQ at weeks 0 and 6 (period 1), and MEMS adherence in weeks 54-72 and BMQ in week 48 (period 2).

**Results:** MEMS adherence and BMQ data were available from 271/365 (74%) ART naïve and 97/113 (88%) ART experienced children in period 1, and 235/335 (70%) naïve and 98/112 (88%) experienced children in period 2. We present results from the ART naïve group in period 1, similar results were observed in period 2, and also among ART experienced children. Caregivers belief in the necessity of ART was stronger on average than their concern, median (IQR) scores were 20.0 (19.3,21.7) and 12.0 (10.7,14.7) for necessity and concern respectively. The median (IQR) necessity-concern differential was 8.3 (6.7,9.7). Adherence was good, as measured by MEMS, with median (IQR) 92% (84%,96%) doses taken. A significant positive association was observed between high necessity-concern score and high mems adherence, p=0.028 (β=0.236). A significant association was also seen among naïve children in period 2 (p=0.001) but not among ART experienced children.

**Conclusions:** Caregivers of HIV-infected children had a strong belief in the necessity of ART, outweighing their concerns about treatment. High levels of adherence to ART were associated with positive overall beliefs towards medicine. There is a need of emphasizing the necessity of treatment to caregivers, while addressing any concerns they may have about ART.

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**TUAB0205**

**IS RETENTION ON ART UNDERESTIMATED DUE TO PATIENT TRANSFERS? ESTIMATING SYSTEM-WIDE RETENTION USING A NATIONAL LABS DATABASE IN SOUTH AFRICA**

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**Background:** Systematic reviews have described high rates of attrition in patients receiving antiretroviral therapy (ART). However, migration and clinical transfer may lead to overestimation of attrition. Using a newly linked national laboratory database in South Africa, we assessed system-wide retention in care.

**Methods:** South Africa’s National Health Laboratory Service maintains a database of all public sector CD4 count and viral load (VL) test results since 2004. We developed an algorithm to link individual lab results using probabilistic matching techniques, creating a national cohort of HIV patients. We analyzed data on all patients initiating ART in 2004 and 2005 (during which time VL were collected at ART initiation) and who had at least one subsequent lab result. We assessed retention in care as time to a patient’s most recent lab result (CD4 or VL), following patients through March 2015. Patients were identified as still in care if their last lab test occurred April 2013 – March 2015. We assessed two retention concepts: (a) system-wide retention including all lab results regardless of testing facility and (b) retention at the initiating clinic, in which lab tests at other facilities were ignored. These two concepts mirror the information available on patient histories from clinic-based and health system-wide perspectives.

**Results:** We followed 53,880 patients who initiated ART in 2004 and 2005. Eight-year retention at the initiating clinic was 13.1% (95%CI: 12.9-13.4). After allowing for transfers, system-wide eight-year retention increased to 47.3% (95%CI 46.9-47.7)(Figure).

**Conclusions:** Patient migration and transfer are common throughout sub-Saharan Africa. Whereas prior cohort studies have tracked patients through resource-intensive follow-up, we show the utility of a national laboratory database for passive tracking of patients regardless of where they seek care. These findings have implications not just for measurement, but also potential to improve continuity of patient care in migration populations.
TUCAO101 ORAL ADMINISTRATION OF MARAVIROC, IN INFANT RHEUSIS MACAQUES. FAILS TO PREVENT SIVMAC ORAL TRANSMISSION
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Background: HIV maternal-to-infant-transmission (MTIT) accounts for >300,000 cases annually. New strategies of prevention are needed. SIV target cell availability at mucosal sites was reported to drive virus transmission. We investigated if systemic CCR5 blockade with Maraviroc (MVC) impacts oral transmission to infant rhesus macaques (RMs).

Methods: Nine infant RMs aged six months were included. Four RMs were untreated controls and five RMs received MVC (150 mg/kg/bid/orally) for up to 6 months. Coreceptor occupancy was closely monitored and RMs were orally exposed to 10,000 TCID50 of SIVmac768XR every two weeks, up to 6 times. The concentration of MVC in plasma was measured by validated LC-MS/MS, plasma viral loads (VLs) and changes of immune cells were monitored respectively by RT-PCR and flow cytometry.

Results: MVC was well tolerated by RMs, with no adverse reactions and significantly blocked CCR5 coreceptor occupancy compared to control group (p=0.01; Figure 1). MVC was well tolerated and in infant RMs. Yet, CCR5 blockade with MVC did not significantly impact SIV oral transmission. Since SIVmac is more promiscuous than HIV-1 with regard to coreceptor usage (i.e., being able to utilize alternative coreceptors, such as DBL/GRPR and Bonzo/STRL33), CCR5 blockade in humans might be more effective in preventing MTIT alone or in being able to use alternative coreceptors, such as BOB/GPR15 and Bonzo/STRL33).

Conclusions: MVC effectively blocked CCR5 and was well tolerated in infant RMs. The MWRI-01 study was undertaken to characterize the safety, acceptability, pharmacokinetics (PK), and pharmacodynamic profile of RPV LA. Participants from the single dose (SD) phase of evaluation of RPV (600 mg and 1200 mg) were able to enroll in a multiple dose (MD) phase evaluation of RPV (1200 mg). This study design provided an opportunity to characterize the persistence of RPV in baseline plasma samples obtained from participants enrolled in the MD phase of the MWRI-01 study. The Lower Limit of Quantification for RPV was 0.5 ng/mL. Multiple blanks were included in the PK assays to exclude the possibility of carryover contamination.

Results: Eight women and four men were enrolled in the MD phase of the study of whom 9/12 (75%) had participated in the SD phase of the study (Table 1). RPV was detected in baseline plasma samples all five female participants (Mean RPV concentration 4.8 ± 2.9 ng/mL) and 3/4 of the male participants (Mean RPV concentration 2.9 ± 1.6 ng/mL). The mean time interval between the SD and Baseline visit was 536 ± 182 and 591 ± 78 days respectively for the female and male participants.

Conclusions: SD administration of RPV LA was associated with prolonged and declining PK exposure. These data have significant implications for the design of LA PrEP studies.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Single Dose (SD) of RPV</th>
<th>Plasma RPV at 24 hours after SD Dose (ng/mL) Mean (± STD)</th>
<th>Time (Days) between SD and Multiple Dose (MO) Baseline (Mean (± STD))</th>
<th>Plasma RPV at MD Baseline (Mean (± STD))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>600 mg (N=2)</td>
<td>20.9 (12.3)</td>
<td>536 (100)</td>
<td>0.8 (0.8)</td>
</tr>
<tr>
<td></td>
<td>1200 mg (N=2)</td>
<td>18.2 (17.1)</td>
<td>553 (51)</td>
<td>3.7 (11.1)</td>
</tr>
<tr>
<td>Female</td>
<td>1200 mg (N=5)</td>
<td>54.0 (12.1)</td>
<td>536 (182)</td>
<td>4.8 (2.9)</td>
</tr>
</tbody>
</table>

Table 1: Summary of time interval between single dose RPV and baseline PK
TUACO 104
BENEFITS OF PRE-EXPOSURE PROPHYLAXIS RELATIVE TO DRUG RESISTANCE RISK

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Background: The risk of drug resistance (DR) with FTC/TDF or TDF pre-exposure prophylaxis (PrEP) occurs primarily in people who had acute HIV infection when starting or restarting PrEP. The risks and benefits of RNA testing before starting PrEP have not been determined.

Methods: The risk of DR in PrEP programs was compiled across 6 randomized clinical trials and one demonstration project. Resistance was measured using clinical genotypic tests.

Results: All reviewed trials used rapid 2nd or 3rd generation antibody tests to guide PrEP initiation, and retrospectively analyzed baseline specimens for HIV RNA among seroconverters. FTC TDF occurred in 10 participants who received FTC/TDF PrEP, including 33% (5/15) of participants acutely infected when starting PrEP, and in 3% (5/157) of participants with emergent infection. Including both baseline and emergent infections, there were 17 infections in the FTC/TDF arms compared with 270 among corresponding placebo controls, representing 98 infections averted and 10 (98/10) infections averted for every FTC resistin infection. Tenofovir resistance occurred in 1 participant who received TDF PrEP, including 10% (1/10) of participants acutely infected when starting PrEP, and none (0/90) with emergent infection. There were 100 infections in the TDF arms and 153 infections in the placebo controls, representing 53 infections averted by TDF PrEP and 53 (53/1) infections averted for every tenofovir resistant infection. In the demonstration project, a screen for acute viral symptoms led to deferral of PrEP among 30 of 1603 (1.9%) participants, of whom 2 (6.7%) were subsequently found to be acutely infected with HIV.

Conclusions: This analysis supports recent World Health Organization PrEP implementation guidance suggesting that rapid 3rd generation antibody tests are sufficient to minimize the overall risk of DR from PrEP. DR risk is higher with FTC/TDF PrEP compared with TDF PrEP. RNA testing before starting PrEP minimizes DR risk further while increasing costs and the risk of HIV infection due to delayed PrEP initiation.

TUACO 105LB
RESIDUAL DAPIVIRINE RING LEVELS INDICATE HIGHER ADHERENCE TO VAGINAL RING IS ASSOCIATED WITH HIV-1 PROTECTION

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Background: In MTN-020/ASPIRE, a vaginal ring containing dapivirine was found to decrease the risk of HIV-1 acquisition by 27% overall in an intention-to-treat analysis compared to placebo and by 37% in an analysis excluding data from two sites with lower adherence/retention. In subgroup analyses, no HIV-1 protection was seen in women 5 age 21, for whom adherence appeared lower. In studies of tenofovir-based prophylaxis, objective markers of adherence have been important in understanding HIV-1 protection when products are used.

Methods: Rings were manufactured with 25 mg of dapivirine, and phase I studies indicated that ~4 mg of dapivirine are on average released during four weeks of continuous use; therefore, levels ≤22 mg were defined as having higher adherence for the present analysis. Starting one year into the trial, we tested the residual dapivirine levels (RDV) remaining in returned, used rings in ASPIRE. Visits at which participants did not return the ring, did not have access to the ring due to product hold or refusal or had RDV >22 mg were categorized as less or non-adherent. The association between HIV-1 acquisition and adherence was assessed using time-varying covariate Cox models adjusted for age and study site, including visits occurring at month 12 and beyond.

Results: Of the 2629 women enrolled in ASPIRE, 2359 were included in this analysis. Compared to placebo, higher adherence to the active dapivirine ring (i.e., RDV≤22 mg) was associated with a 65% (95% CI 23-84, p=0.009) reduction in HIV-1 risk. Results were similar for the full study population and when excluding the two sites with lower adherence/retention (risk reduction 67%, 95% CI 23-86), and point estimates suggested HIV-1 protection for both women ≥21 years (risk reduction 72%, 95% CI 21-95) and ≤21 years of age (risk reduction 50%, 95% CI -78-86). Partial/low adherence (i.e., RDV>22 mg) was not significantly associated with HIV-1 protection (relative risk reduction 35%, 95% CI -10-61, p=0.12).

Conclusions: Residual dapivirine levels in returned rings, an objective marker of adherence, indicate that higher adherence to the dapivirine vaginal ring may provide >65% protection from HIV-1 acquisition.
TUAC0202
SPATIAL ASSOCIATION BETWEEN POPULATION VIRAL LOAD AND HIV INCIDENCE

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Background: Treatment as Prevention programs aim at reducing HIV incidence by increasing the proportion of HIV-positive individuals with undetectable Viral Load (VL) through ART roll out. However, critical data on the relation between population VL and incidence are needed. We explored the spatial association between HIV incidence and population VL in a high HIV prevalence setting in western Kenya.

Methods: We conducted a population-based survey of persons aged 15-59 years in Ndhiwa sub-county, Nyamira, Kenya, collecting spatial (Cluster and Health Center location) and individual (including, HIV status, incidence and VL) information. Population VL is defined as the proportion of individuals HIV+ with a VL<1000cp/mL among the entire population. Population VL, HIV incidence and distance to the nearest health center (HC, delivering ART) were derived. A mixed Poisson regression model of incidence was used, adjusted on age (9 age groups), gender, distance to HC (3 classes) and population size (3 classes).

Results: A total of 6,076 individuals from 165 clusters participated to the survey. HIV prevalence was 24.1% (95%CI 23.0-25.2). VL suppression among HIV-positive participants was 39.0% (95%CI 35.9-42.2). Among all participants, 13.7% (95%CI 12.9-14.6) were HIV-positive with a VL<1,000 cp/mL. Incidence increased with population viral load and was 1.7, 3, 3.4, 4.8 and 5.4 new cases per 100PY for a population VL of [5-10%], [10-15%], [15-20%] and [20-25%], respectively.

In the model, incidence was strongly associated with population VL. Relative risks were 1.26 (95% CI 0.6-2.6), 2.45 (95% CI 1.3-5.0), 3.40 (95% CI 1.8-7.0), 4.02 (95% CI 2.0-8.4) and 4.46 (95% CI 2.0-10.6) for a population VL of [5-10%], [10-15%], [15-20%] and [20-25%] compared to reference (9%-5%).

Conclusions: We found a strong association and gradient between HIV incidence and population VL viral load. This association suggests that population-level reduction of HIV incidence could be achieved by reducing population viral load through ART roll-out in the general population.

TUAC0203
MAPPING THE HIV EPIDEMIC TO IMPROVE PREVENTION AND CARE: THE CASE OF FRANCE

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Background: Despite decades of treatment efforts, in most settings, the number of new HIV infections remains unacceptably high and late HIV diagnosis remains common. To improve HIV prevention and care, a more focused response is needed using detailed data to map areas that are most impacted by HIV.

Methods: We used data on newly diagnosed HIV cases from 2004 to 2012 and a back-calculation model, previously developed (Ndawinz et al. AIDS 2011, Supervie et al. AIDS 2014), to estimate, in France, at the national level, at the regional level and by HIV exposure group, three epidemiological indicators: HIV incidence, distribution of times from HIV infection to diagnosis, and the number of undiagnosed HIV infections.

Results: We estimated that in 2012, around 6800 (95% confidence interval: 5900-7700) new HIV infections occurred in France, 24600 (21000-26000) individuals were living with undiagnosed HIV and the median time from infection to diagnosis was 36 months (inter-quartile range: 12-64). HIV incidence and median time from infection to diagnosis were stable since 2004. HIV incidence and undiagnosed HIV prevalence rates were highest in French Guiana, French Antilles, Paris region (p< 0.001; Figure 1a and b). Median time from infection to diagnosis was longest in French Guiana, Poitou-Charentes, Brittany, Limousin-Auvergne, Guadeloupe, Nord-Pas-de-Calais and Picardy (p< 0.001; Figure 1c). The epidemic was mainly driven by both MSM and born abroad heterosexuals in the Paris region, and by born abroad heterosexuals in French Guiana.

Conclusions: To the best of our knowledge, this is the first study that provides estimates of three main epidemiological indicators at a granular level, throughout the use of a detailed national dataset. These estimates will be essential to tailor and evaluate a more focused HIV response.

TUAC0204
ONGOING HIGH HIV INCIDENCE AMONG WOMEN AND MEN IN CHOÎKWE, SOUTHERN MOZAMBIQUE: A CALL FOR RAPID SCALE UP OF COMBINATION HIV PREVENTION

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Background: In 2012, estimated HIV incidence among sexually active women in Chôkwè Mozambique was 4.6 per 100 person-years (PY). In 2014, the Chôkwè Health Demographic Surveillance System (CHDSS) incorporated HIV testing and counseling (HTC) within annual rounds of demographic surveillance. In this abstract, we report HIV incidence during the first two rounds of CHDSS HTC.

Methods: CHDSS includes 95,589 residents in Chôkwè town and 6 villages in Southern Mozambique. During each round, all CHDSS households are visited and HTC is offered to all encountered residents. Round 1 was conducted April 2014-May 2015; round 2 May-December 2015. Analyses are restricted to residents who tested HIV-negative in round 1 and retested in round 2. Adjusted incidence rates (IR) per 100 person-years were estimated with a generalized linear model using SAS 9.4.

Results: Of 20,235 participants aged 15-59 years who tested HIV-negative in round 1, 10,826 (54%) retested in round 2. HIV incidence was high overall (adjusted IR, 4.7) and higher among residents in Chôkwè town than villages (p<0.001). Among participants aged 15-24 years, incidence among females was higher than males (4.0 vs. 1.0; p<0.001); among participants aged 25-44 years, incidence was higher among males than females (10.8 vs. 7.9; p<0.02). Incidence was not statistically significantly different between males and females 45-59 years of age (p=r=0.8).

The estimated adjusted HIV incidence rate was 4.7 (95% confidence interval, 4.2-5.4) per 100 person-years.

<table>
<thead>
<tr>
<th>Demographic Group</th>
<th>Participants</th>
<th>Incident Infections</th>
<th>Follow-up Person Years</th>
<th>Crude IR per 100 Person Years</th>
<th>Adjusted IR per 100 Person Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chôkwè Town</td>
<td>6670</td>
<td>329</td>
<td>4733.1</td>
<td>7.0 (6.2-7.7)</td>
<td>6.0 (5.2-6.9)</td>
</tr>
<tr>
<td>Villages</td>
<td>4152</td>
<td>144</td>
<td>3462.6</td>
<td>4.2 (3.5-4.9)</td>
<td>3.4 (2.8-4.2)</td>
</tr>
</tbody>
</table>

[Adjusted HIV Incidence and 95% Confidence Intervals, Total and by Urbanicity]
TUAC0205
DISTRICT PREVALENCE OF UNSUPPRESSED HIV IN SOUTH AFRICAN WOMEN: MONITORING PROGRAMME PERFORMANCE AND PROGRESS TOWARDS 90-90-90

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Background: Population prevalence of unsuppressed HIV is a key determinant of HIV morbidity, mortality, and onward transmission, and can be reduced through both treatment and prevention strategies. We estimate unsuppressed HIV prevalence among reproductive-aged women in South Africa’s 52 districts.

Methods: District HIV prevalence for women 15-49 years was estimated using national antenatal surveillance data, pooled for 2010-2012 to improve precision. Data were combined from District Health Information System (DHIS), National Health Laboratory Service (NHLS), and South African Census to estimate proportion virally suppressed. We multiplied total numbers of patients remaining on ART in 2012 Laboratory Service (NHLS), and South African Census to estimate proportion virally suppressed. We divided by the district population of patients with viral loads in 2012 that were women 15-49 years and virally suppressed (NHLS). We estimated from routine programme and surveillance data.

Results: Prevalence of unsuppressed HIV varied widely across districts (5% to 33%, Fig 1a). By 2012, no district had achieved the 90x90x90 target of 72.9% population-level viral suppression in the study population of reproductive-aged women; however, there was large variability in the percent of HIV-infected who were virally suppressed (9% to 39%, Fig 1b) and thus clear opportunity to identify the determinants of high-performing districts. Districts with the highest viral suppression had the highest HIV prevalence (p < .001), suggesting successful targeting of resources, but also a need for renewed focus on districts in the second tier of HIV prevalence. Conclusions: Unsuppressed HIV prevalence and percent suppressed among the HIV-infected offer measures of unmet need and program performance that can be estimated from routine programme and surveillance data.
TUAD0102

STILL “AT RISK”: AN EXAMINATION OF HOW STREET-INVOLVED YOUTH UNDERSTAND, EXPERIENCE, AND ENGAGE WITH “HARM REDUCTION” IN VANCOUVER’S INNER CITY

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Background: Vancouver is an international leader in implementing interventions to reduce harms related to injection drug use, including a large needle exchange program and North America’s first government-sanctioned supervised injection facility. However, street-involved youth who use drugs continue to be vulnerable to HIV infection as a result of high rates of syringe sharing. In order to understand why youth in this setting continue to experience drug-related harms in the context of intensive public health intervention, we consider how these youth understand, experience and engage with harm reduction programs in the context of entrenched marginalization.

Methods: Twelve semi-structured interviews were conducted in 2013 with thirteen youth (ages 17-28) recruited from the At-Risk Youth Study, a prospective cohort of 500 street-involved and drug-using youth. These interviews were embedded within a larger, eight-year program of ethnographic research, and explored participants’ understandings of “harm reduction” their use of specific services, and their ideas about improving their day-to-day lives. Interviews were transcribed verbatim and a thematic analysis was performed.

Results: Youth’s understandings of and ideas about “harm reduction” were diverse, and went beyond public health efforts to minimize drug-related risks. Many youth articulated the limitations of existing programs, indicating that while they reduce the risk of HIV transmission, they offer little meaningful support to improve youth’s broader life chances. Youth described how they used “softer drugs” like marijuana to reduce the amount or frequency of substances deemed more harmful (e.g. crack cocaine, heroin) to their mental and physical health. They also indicated that using “softer drugs” allowed them to transition from intravenous routes of administration to oral, inhaled or intranasal routes. Finally, youth indicated that spatial considerations (e.g., distance from Vancouver’s Downtown Eastside) strongly determined access to harm reduction services, and to the more expansive visions of “wellness” that they envisioned for themselves.

Conclusions: In Vancouver, a large, well-established harm reduction infrastructure seeks to reduce drug-related harms such as HIV transmission among street entrenched youth. However, youth’s multiple understandings, experiences and engagements with “harm reduction” in this setting illustrate the limitations of the existing infrastructure in improving their broader life chances, and addressing their desires for structural change.

TUAD0103

FORCED SEX, MIGRATION AND HIV INFECTION AMONG WOMEN FROM SUB-SAHARAN AFRICA LIVING IN FRANCE: RESULTS FROM THE ANRS PARCOURS STUDY

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Background: In Europe, sub-Saharan African migrant women are a key population for HIV infection. Social hardships during migration may increase women vulnerability to sexual violence and HIV infection. The aim of this study is to assess the association between forced sex, migration and HIV infection among sub-Saharan African migrant women living in France.

Methods: Parcours is a life-event survey conducted from February 2012 to May 2013 in health-care facilities in the Paris region, among two random samples of sub-Saharan migrant women: 570 receiving HIV care (156 acquired HIV in France) and 407 not diagnosed with HIV (reference group). Women were retrospectively asked whether they had even been forced to have sex against their will and if, happened, during which calendar year(s). Using mixed-effects logistic regression models, characteristics associated with an experience of forced sex after 14 years old in France, including migration history and living conditions each year after arrival in France, were first identified. Then, the frequency of forced sex after 14 years old in France was compared, adjusting for these characteristics, between women having acquired HIV either before or after migration and those HIV-uninfected.

Results: Overall, 22.2%, 23.3% and 18.3% of women HIV-infected before migration, HIV-infected after migration and HIV-uninfected, respectively, reported an experience of forced sex after 14 years old (childhood sexual abuse was about 4%), and, 3.8%, 17.3% and 4.2%, respectively, reported an experience of forced sex after arrival in France. Having migrated because of being threatened in the country of origin (aOR=5.96[1.57-22.61]) and absence of stable (aOR=4.64[1.69-12.79]) or own (aOR=2.72[1.36-5.3]) housing in France were associated with a higher frequency of forced sex in France. Adjusting for migration history and living conditions, the frequency of forced sex in France was higher among women having acquired HIV in South Africa compared to those HIV-infected before migration (aOR=2.18[0.78-6.04]).

Conclusions: Among sub-Saharan African migrant women, HIV acquisition in France may be related to a context of sexual violence. Women whose migration was motivated by violence and those who experience social hardships in the host country are at high risk of sexual violence.

TUAD0104

WHOONGA: OFF-LABEL ANTIRETROVIRAL MEDICATION FOR RECREATIONAL SUBSTANCE USE AND PREDICTED IMPLICATIONS FOR PRE-EXPOSURE PROPHYLAXIS HIV PREVENTION IN SOUTH AFRICA

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Background: “Whoonga” is a colloquial term describing an illicit drug allegedly comprised of antiretroviral medication used alone, or in combination with cannabis, methamphetamine, heroin, and other substances. Few studies characterize whoonga use among adolescents. Off-label use of antiretrovirals may diminish supply of antiretroviral treatment medication, and contribute to non-adherence, medication resistance, and an illicit drug economy.

Methods:Emergent data on whoonga was derived from two adolescent HIV prevention studies conducted from 2015-2016 in Cape Town, South Africa. The first study was a baseline survey from an ongoing intervention study of family adolescents HIV prevention with N=399 adolescents and parents (adolescents: 100% Black African, 56% female, M=14 years; parents 100% Black African, 56% female, M=40 years). Participants were recruited through house-to-house community sampling, and completed behavioral self-reports of whoonga use via a computerized mobile smartphone with audio computer-assisted self-interview software. The second study is an ongoing qualitative study of acceptability of HIV pre-exposure prophylaxis (PrEP) for adolescents involving focus groups and interviews with N=24 adolescents (M=100% Black African, 60% female, 16-17 years) and N=17 service providers. Adolescent participants were recruited using convenience sampling in community and clinic settings; service providers were recruited using respondent driven sampling. We conducted descriptive analysis of quantitative data using SPSS and a thematic analysis of qualitative data using NVivo. Brown University and University of Cape Town provided ethical approvals.

Results: Nearly a fifth of adolescents reported whoonga use (3% used themselves, 14% knew someone who used). Administration included smoking (71%), snorting (15%), injecting (15%), and inserting (3%). Parents also reported whoonga use (4% used themselves, 7% knew someone who used). Administration included smoking (57%), injecting (29%), and snorting (14%). Preliminary qualitative findings demonstrated clinicians knew of patient whoonga use and were concerned about how PrEP implementation would impact whoonga initiation and abuse. Adolescents used specific slang for individuals using whoonga, identified linkages between crime and whoonga abuse.

Conclusions: Whoonga use is an emerging prevention challenge. Future studies should characterize the prevalence, composition, social and behavioral correlates of whoonga use, and further explore how the use of whoonga may be affected by PrEP implementation.

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TUAD0105
IMPACT OF A STRUCTURAL INTERVENTION TO ADDRESS ALCOHOL USE AMONG GAY BAR-PATRONS IN SAN FRANCISCO: THE PACE STUDY
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Background: Men who have sex with men (MSM) have high rates of binge drinking (>50% in San Francisco [SF]), which can lead to increased sexual risk and other negative health outcomes. Heavy alcohol use is a recognized driver of the HIV epidemic in SF and gay bars have been identified as important venues for interventions addressing alcohol-related HIV risk.

We sought to evaluate the impact on alcohol intake and blood alcohol concentration (BAC) of a pilot structural intervention to increase the availability of free water coupled with messaging on pacing alcohol intake and normative feedback about blood alcohol concentration in a convenience sample of gay bars in San Francisco, CA., USA.

Methods: From January 2012 to August 2014, study participants (n=1293) were recruited among exiting patrons of 4 gay bars in SF (2 intervention bars and 2 control bars). Participants answered a brief survey regarding alcohol intake and sexual risk behaviors then completed a breathalyzer test to measure their BAC. Individuals’ measured BAC was displayed graphically in relation to others exiting the bar. Alcohol intake and measured BAC of participants were compared at baseline and post-intervention between control and intervention bar patrons using Pearson χ².

Results: No significant differences between intervention and control bars were found at baseline. Participants were 69% Caucasian, 11% Latino, 5% African-American, 7% API, 8% other race; mean age was 37.5 years. We found high levels of alcohol use and risk across all participants (56% reported condomless sex with a potentially serodiscordant partner at last sex). Post-intervention there were significant differences on measures of alcohol consumption: 30% of intervention bar participants had BAC levels over the legal limit (.08g/dL) compared to 43% of control bar participants, χ²=001 and 78% of intervention bar participants were above the AUDIT-C cut-off for problematic drinking compared to 87% in control bars, χ²=001.

Conclusions: It is feasible to partner with bar owners to implement a structural intervention to reduce BAC levels of customers. Increasing the availability of free water and alcohol intake pacing messaging in gay bars can decrease patron alcohol intake and may impact alcohol related sexual risks for HIV.

TUAD02
REALITY CHECK: THE INTERSECTIONS OF VIOLANCE, HIV AND TRAUMA

TUAD0201
MICRO-LEVEL SOCIAL AND STRUCTURAL SYNDROMIC OF HIV RISK AMONG NEPALESE FEMALE SEX WORKERS
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Background: Sex workers face stigma, discrimination and violence across the globe and are almost 14 times more likely to be HIV infected than other women in low- and middle income countries. In Asia, condom campaigns at brothels have been effective in some settings, but for preventive interventions to be sustainable it is important to understand micro-level social and structural factors that enable sex workers to practice behaviors that reduce HIV risk. This study assesses the syndemic effects of micro-level social and structural factors of unprotected sex and the prevalence of HIV among female sex workers (FSW) in Nepal.

Methods: In this quantitative study, 610 FSW were recruited using two-stage cluster sampling between September 2012 and November 2012 from 22 Terai highway districts of Nepal. Rapid HIV tests and face-to-face interviews were conducted to collect biological and behavioral information. A count of physical (sexual violence), social (poor social support and condom negotiation skills) and economic (unsafe sex to make more money) factors that operate at the micro-level was calculated to test the additive relationship to unprotected sex. Unprotected sex was assessed with the following question: “The last time you had sex with your client, did he use a condom?” Point-biserial correlation was conducted to measure the size and significance of associations between each syndemic condition and unprotected sex. Statistically significant associations between independent variables and unprotected sex were computed using multivariable logistic regression.

Results: The HIV prevalence was 1% in this presumably representative and large sample of FSW in Nepal. The prevalence of unprotected sex with client was high (24%). For each additional adverse physical, social and economic condition, the likelihood of unprotected sex with clients increased substantially: 1 problem=2.2 adjusted odds ratio (AOR); 95% confidence interval [CI]=1.3-3.7; 2 problems=3.1 AOR; 95% CI=1.8-5.4; 3-5 problems=7.3 AOR; 95% CI=3.9-13.9.

Conclusions: Interactions between two or more adverse conditions linked to physical, social, sexual and economic environment increased the risk of unprotected sex among FSW. A more holistic approach, including efforts to improve condom negotiation skills and to address economic vulnerability and abuse, is required to address unprotected sex among FSW in Nepal.

TUAD0202
PHYSICAL AND SEXUAL VIOLENCE AGAINST FEMALE SEX WORKERS IN COTE D’IVOIRE: PREVALENCE, AND THE RELATIONSHIP BETWEEN VIOLENCE AND STRUCTURAL DETERMINANTS OF HIV
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Background: The HIV epidemic disproportionately affects female sex workers (FSW). Violence has been identified as an important measure in understanding HIV amongst FSW, however, limited data exist regarding the experience of physical and sexual violence amongst FSW in Cote d’Ivoire. Characterizing the prevalence of physical and sexual violence, as well as the relationship with structural HIV-related

Supporting content: This page includes abstracts for presentations on various topics related to HIV prevention, treatment, and the intersections of violence and trauma. The abstracts are from the International AIDS Conference and cover research on structural interventions, micro-level and syndemic factors, and the role of violence in HIV risk among sex workers.
TUAD0203 EXPERIENCES OF CHILDHOOD TRAUMA INCREASES HIV-RISK BEHAVIOURS IN YOUNG WOMEN AND MEN IN URBAN INFORMAL SETTLEMENTS IN SOUTH AFRICA

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Background: Young adults in informal settlements experience high HIV-incidence. While childhood trauma is known to increase HIV risks factors including violence, multiple partnership and substance use in other settings, little is known about the impact of childhood trauma in informal settlements.

Methods: We drew on cross-sectional data from 320 women and 319 men aged 18 to 38 in informal settlements in Durban, South Africa comprising the control arm of a cluster randomisedRCT. Questionnaires collected scores assessing childhood trauma before 18, including experiences of physical violence, sexual abuse, emotional violence and harsh parenting. Outcomes were HIV-risk factors assessed over the past 12m: three or more main partners, three or more casual partners, three or more one-off partners, IPV and non-partner sexual violence and problematic alcohol use. For each outcome we built (male/female) regression models controlling for clustering and potential confounding variables.

Results: Mean ages were 24.4 years for women and 23.4yrs for men. Before the age of 18, 78.2% of men and 71.3% of women reported witnessing or experiencing physical violence; 48.0% of men and 34.7% of women experienced sexual violence; and 62.1% of men and 56.9% of women experienced emotional violence. For women, increasing childhood trauma was associated with more one off sexual partners, experiencing IPV, non-partner sexual violence and problematic alcohol use.

Conclusions: Childhood trauma mean (CI)

<table>
<thead>
<tr>
<th>Past 12m outcomes</th>
<th>Yes</th>
<th>No</th>
<th>aOR (CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or more main sexual partners</td>
<td>9.8(7.5-10.7)</td>
<td>6.7(5.9-7.6)</td>
<td>1.08(1.02-1.13)</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>3 or more casual sexual partners</td>
<td>9.2(7.5-10.8)</td>
<td>6.9(6.1-7.7)</td>
<td>1.06(1.00-1.11)</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>3 or more one-off sexual partners</td>
<td>8.7(7.3-10.1)</td>
<td>7.0(6.1-7.8)</td>
<td>1.06(1.00-1.11)</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Perpetrating any IPV</td>
<td>9.3(8.3-10.2)</td>
<td>5.1(4.2-6.0)</td>
<td>1.14(1.07-1.21)</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>Perpetrating non-partner sexual violence</td>
<td>9.5(8.3-10.7)</td>
<td>6.1(5.3-6.9)</td>
<td>1.07(1.02-1.13)</td>
<td>p&lt;0.01</td>
</tr>
</tbody>
</table>

[Men: Childhood traumas associated with HIV-risks]

TUAD0204 HIV+ DIAGNOSIS DURING PREGNANCY INCREASES RISK OF IPV POSTPARTUM AMONG WOMEN WITH NO HISTORY OF IPV IN THEIR RELATIONSHIP

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Background: There have been mixed findings on the relationship between HIV and women’s risk of IPV. Per the dual vulnerability model, it may be that HIV infection matters only for particular relationships. Specifically, when you add an HIV-positive diagnosis into an already stressed relationship (as indicated by IPV history) it may work synergistically to increase IPV risk. In contrast, women’s relationships where there is no history of IPV may be more resilient to an HIV-positive diagnosis. Therefore, the aim is to test whether the positive association between HIV status and IPV will be exacerbated for women with a history of IPV.

Methods: Data come from 1064 women who participated in the baseline antenatal visit and 9-month postpartum follow up visit as part of a larger RCT. We conducted logistic regression analysis to examine our hypothesis. Model 1 assessed whether HIV diagnosis at baseline predicted physical IPV at follow up, controlling for demographic covariates. Model 2 included an interaction between HIV diagnosis and history of IPV.

Results: While HIV was not associated with postpartum IPV in the main effects model (AOR: 1.44, 95% CI: .78-2.81), there was a statistically significant interaction between HIV diagnosis and having a history of IPV (AOR: .40, 95% CI: .17-.96). The findings were in the opposite direction as expected: among women who had a history of IPV in the relationship, HIV status did not predict IPV postpartum (AOR: .87, 95% CI: .49-1.55). Yet among women who had no history of IPV in the relationship, receiving an HIV-positive diagnosis during pregnancy predicted postpartum IPV (AOR: 2.17, 95% CI: 1.06, 4.42).

Conclusions: Receiving an HIV-positive diagnosis in pregnancy did not exacerbate postpartum IPV for women with a history of IPV in their relationship; the diagnosis may not signify new stress within the relationship. However, the findings have important implications for women with no history of IPV. That is, women who test HIV-positive and have no history of IPV should be counseled regarding their future risk of IPV in their relationship. Given the negative health ramifications of IPV during the perinatal period for women and their children, IPV prevention interventions are needed.

For men, increasing childhood traumas were associated with more main, casual and one-off sexual partners and perpetrating IPV and non-partner sexual violence.
TUAD0205

PHYSICAL ASSAULT PARTIALLY MEDIATES THE IMPACT OF TRANSGENDER STATUS ON DEPRESSION AND POLY-SUBSTANCE USE AMONG BLACK MSM AND BLACK TRANSgressor WOMEN IN THE UNITED STATES: RESULTS FROM POWER

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Background: Black men who have sex with men (BMSM) and black transgender women (BTW) are vulnerable to physical assault, poly-substance use, and depression, outcomes that drive new HIV infections and poor HIV-related health outcomes in both populations. Though BTW are different from BMSM, no studies have examined how the manifestations of these outcomes may differ between populations. In order to fill this gap, we examined differences in physical assault, poly-substance use, and depression between BMSM and BTW, and we investigated whether physical assault mediates differences in poly-substance use and depression.

Methods: Cross-sectional data for our analysis came from the first two years of the ongoing study, Promoting Our Worth, Equality, and Resilience (POWER). In 2014 and 2015, POWER employed time-location sampling (TLS) to recruit a community-based sample of BMSM and BTW (n=3,420) who attended Black Pride events in six U.S. cities. Participants completed a behavioral health survey and were offered onsite HIV-testing. At total of 2,997 BMSM and 277 BTW (n=3,274), provided complete data for our analysis. All TLS weighted multivariable models controlled for age, education and city.

Results: BTW had significantly higher prevalence of physical assault than BMSM (44.4% vs 12.3%, respectively). In multivariable models, compared to BMSM, BTW had greater physical assault (AOR=5.2; 95% CI: 3.9, 7.0), poly-substance use (AOR=7.2; 95% CI: 4.9, 10.6), and depression (AOR=1.3; 95% CI: 2.5, 4.4). Physical assault attenuated the effects of transgender status on poly-substance use (AOR=3.9; 95% CI: 2.6, 5.9) and depression (AOR=2.4; 95% CI: 2.5, 4.4). The indirect effect of transgender status on poly-substance use via physical assault was 1.4 (95% CI: 1.2, 1.7), and the indirect effect of transgender status on depression via physical assault was 1.3 (95% CI: 1.15, 1.47). Physical assault partially mediated the relationship of transgender status with poly-substance use and depression.

Conclusions: BTW face an epidemic of physical assault. If this epidemic continues, efforts to address depression and poly-substance use as well as other downstream health outcomes (e.g. HIV incidence, HIV-related health outcomes) among BTW will be futile. Interventions addressing structural inequity are necessary to alleviate the instances of physical assault perpetrated against BTW.

TUAD0310

CHALLENGES TO ADVANCING HIV RESEARCH IN PREGNANCY: INSIGHTS FROM THE HIV RESEARCH COMMUNITY

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Background: Concerns about including pregnant women in research have led to a dearth of evidence to guide safe and effective treatment and prevention of HIV in pregnancy. We aimed to identify the range of barriers to conducting research in this area.

Methods: We conducted a series of consultations with HIV investigators and clinicians to elicit their views and experiences conducting HIV research involving pregnant women. We solicited input from 55 colleagues in small groups or one-on-one sessions to discuss priorities and barriers to research with pregnant women. Content analysis was used to identify themes.

Results: Participants discussed a breadth of areas of needed research, including safety, efficacy, and appropriate dosing of: newer ARVs for pregnant women; emerging preventive strategies; and treatment for HIV’s co-infections, including but not limited to tuberculosis. Challenges to conducting research on pregnancy and HIV included regulatory and legal barriers, such as restrictive interpretations of current regulations; financial disincentives stemming from funders’ views that pregnant women cost more to include and represent a small sub-population; social and cultural research norms, such as fear of reputational damage if harms arise for pregnant women or their fetuses; and logistical difficulties, such as challenges recruiting enough pregnant women to sufficiently power data analysis.

TUAD0301

SEX, BABIES AND LIFE: EFFECTIVE REPRODUCTIVE HEALTH PROGRAMMES

TUAD0302

FUTURE PREGNANCY INTENTIONS AND KNOWLEDGE OF METHODS FOR SAFER CONCEPTION AMONG FEMALE SEX WORKERS IN PORT ELIZABETH, SOUTH AFRICA

Authors: S. Barro1, S. Baral1, N. Phraovana-Maluyi1, A. Lambert2, Z. Kose1, M. Mcingana3, C. Holland4, S. Ketende5, S. Schwartz6

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Background: Female sex workers (FSW) are disproportionately affected by HIV and experience high rates of pregnancy. The objective of these analyses is to assess fertility intentions and the impact of HIV on pregnancy intentions and safer conception knowledge among FSW in Port Elizabeth, South Africa.

Methods: FSW in Port Elizabeth were recruited into a cross-sectional study using respondent-driven sampling. Participants completed an interviewer-administered questionnaire asking about future fertility intentions and were provided HIV testing and counseling. Robust Poisson regression was used to model adjusted prevalence ratios (aPRs) for correlates of positive fertility intentions among FSW ≥ 45 years. Knowledge of safer conception methods was described using Fisher’s-exact tests.

Results: Overall 391 FSW were represented in the analyses. Just over 50% (203/391) had received a prior HIV diagnosis and an additional 12% (46/391) were diagnosed...
with HIV during the study. Slightly under half of FSW (185/391) reported future pregnancy intentions (47%). In bivariate analyses, knowledge of prior HIV diagnosis was negatively associated with pregnancy intentions as compared to HIV-negative women (PR=0.68,95%CI (0.55-0.85)). Older age, greater number of children living, and more years selling sex were also significantly negatively associated with pregnancy intentions. Being in a relationship was significantly positively associated with pregnancy intentions. In multivariate analyses, only parity remained significantly associated with future pregnancy intentions. Knowledge of safer conception methods, such as timed condomless sex, pre-exposure prophylaxis, or self-insemination was low and non-statistically significantly different between those with and without pregnancy intentions (Table 1).

Conclusions: Pregnancy intentions were high and not independently associated with HIV status. Moreover, there was limited knowledge of safer conception methods suggesting the need for specific advice for FSW on how to conceive safely given their HIV status. Moreover, there was limited knowledge of safer conception methods suggesting the need for specific advice for FSW on how to conceive safely given their HIV status.

Table 1. Knowledge of HIV prevention strategies for conception by known HIV status among 391 Female Sex Workers in Port Elizabeth, South Africa

<table>
<thead>
<tr>
<th>Reason</th>
<th>HIV +</th>
<th>HIV -</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARVs for the infected partner No Yes</td>
<td>300 (76.7)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>PrEP for the uninfected partner No Yes</td>
<td>374 (95.7)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>Treatment when pregnant No Yes</td>
<td>203 (51.9)</td>
<td>188 (48.1)</td>
</tr>
<tr>
<td>Self-insensimination No Yes</td>
<td>387 (99.9)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>Timed intercourse No Yes</td>
<td>387 (99.9)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>Sperm-washing/in-vitro fertilisation No Yes</td>
<td>363 (92.8)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>Using a sperm donor No Yes</td>
<td>360 (92.3)</td>
<td>91 (64.1)</td>
</tr>
<tr>
<td>Adoption No Yes</td>
<td>300 (76.7)</td>
<td>91 (64.1)</td>
</tr>
</tbody>
</table>

Overall 391

HIV +n=142

HIV -n=249

HIV+, no pr-

do or dx=46

HIV-, prior dx=203

p-value

ARVs for the infected part-

ter No Yes 300 (76.7) 91 (64.1) 42 (91.3) 4 (1.0) 145 (71.4) 58 (28.6) 0.007

PrEP for the uninfected part-

ter No Yes 374 (95.7) 91 (64.1) 45 (97.8) 2 (4.4) 194 (95.6) 9 (4.4) 0.883

Treatment when preg-
nant No Yes 203 (51.9) 188 (48.1) 30 (65.2) 16 (34.8) 82 (40.4) 121 (55.6) <0.001

Self-insensima-

mination No Yes 387 (99.9) 91 (64.1) 46 (100.0) 0 (0.0) 201 (99.0) 1 (0.0) 1.0

Timed intercourse No Yes 387 (99.9) 91 (64.1) 46 (100.0) 0 (0.0) 201 (99.0) 1 (0.0) 1.0

Sperm-washing/in-vitro fertilisation No Yes 363 (92.8) 91 (64.1) 44 (95.7) 2 (4.3) 189 (93.1) 14 (6.9) 0.694

Using a sperm donor No Yes 360 (92.3) 91 (64.1) 46 (100.0) 0 (0.0) 182 (88.7) 21 (10.3) 0.038

Adoption No Yes 300 (76.7) 91 (64.1) 46 (100.0) 0 (0.0) 147 (72.4) 56 (27.6) 0.001

TGAD0303

"I GOT TESTED SO I CANNOT LOSE HIM": HIV TESTING PRACTICES AND SUBSEQUENT SEXUAL BEHAVIOURS OF SEX WORKERS IN MOMBASA, KENYA

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Background: HIV testing is a critical step toward accessing treatment for individuals and is used by some sex workers and clients as a reason to engage in condomless sex. For instance, participants sought HIV testing following a high-risk sex so that they could get post-exposure prophylaxis. Other participants sought testing weeks or months later.

Conclusions: HIV testing is used by some sex workers and clients as a reason to engage in condomless sex with commercial partners. However, given the high HIV risk involved in sex work, HIV prevention programs should continue to underscore the importance of both HIV testing and consistent condom use in these encounters.

TUAD0304

BEHIND CLOSED DOORS: SEX, REPRODUCTION AND THE HOUSEHOLD SPACE IN RURAL SOUTH-WESTERN UGANDA

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Background: In south-western Uganda HIV prevalence and total fertility rates are high amongst married individuals. Sex and reproduction in marriage primarily takes place in the home. This space is associated with privacy and preconceived ideas of gender norms, which can pose challenges to the negotiation and management of sexual and reproductive health (SRH) behaviours. This study set out to understand the challenges, risk perceptions and strategies used by men and women at different stages of the life-course to manage and negotiate SRH issues in marriage.

Methods: Data collection took place over 12 months within an existing general population cohort in rural south-western Uganda. Methods included life-story interviews and focus groups with individuals who had ever been married. Participants were randomly selected from six villages, where HIV prevalence ranges between 4.5%-16%. In-depth interviews were also conducted with religious leaders, tradi
tion leaders and health workers. Iterative thematic analysis was used to interpret, code and organise the data.

Results: Developing the home, unprotected sex and having children are central to the marital relationship in this setting. Failure to fulfill cultural expectations of gender roles and SRH behaviours within the household space were associated with marital dissatisfaction, relationship instability and extra-marital relations. This paper focuses on the SRH strategies described by men and women at different stages of marriage and the life-course. Strategies include: claiming space and time for sexual intimacy, techniques for managing menstruation, hygiene practices, and the various methods used to achieve fertility preferences and resolve SRH problems.

Conclusions: Individuals in marital relationships face specific challenges in managing SRH risks due demands in fulfilling gender roles, maintaining the marital relationship and stability of the home, whilst also achieving sexual desires and fertility preferences. Understanding the context and cultural meanings of sex and reproduction can facilitate tailored SRH intervention with married individuals.

TUAD0305

YOUTH SEXUAL AND REPRODUCTIVE HEALTH IN CHINA: RESULTS FROM A NATIONAL SURVEY OF 18,000 CHINESE COLLEGE STUDENTS

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Background: Notwithstanding years of efforts guided by the National Strategy on HIV/AIDS Prevention and Control in Schools, a climbing trend of HIV infections among college students has been observed in China11. This study investigated the status quo of HIV knowledge and sexual behavior patterns among college students, aiming to provide evidence for policy makers to identify priority areas of HIV/AIDS prevention and control12 Ministry of Education. (2015). Retrieved from: http://www.moh.gov.cn/jkbsj/201508/64ca81e680e4ba8e9c49f78708873d1.shtml

Methods: This study was conducted from January to August in 2015 through a multi-stage sampling approach. 130 colleges were selected from eastern, central and western China. The internet-based survey questionnaire was subsequently delivered to the focal points in each school for voluntary participation Logistic and
linear regression were used to explore the association between risk factors and attitude/behavioural outcomes, under SAS 9.2 with a significant level of 0.05.

Results: 17966 students were included, of which 90% came from the 130 schools. 94.8% of the surveyed population responded. Only 55.6% of the students had received sexual education from school. 20.3% of the respondents didn’t know that HIV could not be spread by sharing eating utensils. 47.0% in homosexual group had sex before (15.3% for heterosexual, 30.1% for bisexual). The proportion of condom use during the last sexual intercourse was 62.5%. 22.7% reported to have STI-related symptoms. Logistic regression results indicated that knowledge about sexual and reproductive health, family structures and sexual orientation were strongly associated with high-risk sexual behaviors, while gender, parents’ education, stratifications of residential area and types of degree programs were significant effect modifiers for knowledge on HIV/AIDS related information.

Conclusions: High prevalence of risk sexual behaviors suggested that students remain a vulnerable population in terms of HIV/AIDS and STIs, especially among sexual minority groups. Future school-based interventions should be designed with a more gender-sensitive and individualized approaches.

TUAD0402 EFFECTS OF A BRIEF AFFIRMATION INTERVENTION ON HIV-RELATED DISTRESS AND POSITIVE LIVING INTENTIONS AMONG INDIVIDUALS RECENTLY DIAGNOSED WITH HIV IN LESOTHO

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Background: In addition to the physical burden of the illness, HIV also carries a psychological burden as those recently diagnosed with HIV navigate identity-related concerns including fears regarding how to live a normal life with HIV, possible stigmatization, and whether to disclose one’s HIV status. This study investigated using a novel psychological intervention to reduce the psychological distress associated with being HIV positive and in turn, improve intentions to live positively.

Methods: 331 participants (207 women, mean age of 41) were recruited, following HIV diagnosis, from 10 clinics and hospitals in the Maseru and Leribe districts of Lesotho. Participants were randomly assigned to either the affirmation intervention condition or the control condition. Those in the affirmation intervention condition completed a brief, 10-minute exercise where they reflected on important values before receiving positive living counseling. Those in the control condition simply received positive living counseling without the affirmation task. Following the counseling sessions, all participants completed measures of their current HIV-related stress and distress and their intentions to engage in positive living behaviors. The impact of the affirmation intervention on participants’ HIV-related distress and positive living intentions was evaluated by separate one-way analyses of variance.

Results: Overall, participants in the affirmation condition reported less HIV-related distress relative to those in the control condition. More specifically, participants in the affirmation condition reported experiencing significantly less stress (M=1.79 vs. M=2.17, p=.006), fewer intrusive HIV-related thoughts (M=2.17 vs. M=2.62, p=.011), fewer distressing emotions in response to HIV (M=1.27 vs. M=1.46, p=.027), and were less worried about dying from HIV (M=1.86 vs. M=2.31, p=.012). Additionally, those in the affirmation condition also reported greater positive living intentions including intentions to use condoms (M=5.56 vs. M=5.38, p=.046) and to take medications properly (M=5.53 vs. M=5.30, p=.029). Finally, the effect of the affirmation intervention on participants’ intention to live positively was mediated by the extent to which the intervention reduced participants’ HIV-related stress.

Conclusions: These findings provide initial evidence in support of using brief affirmation interventions in clinical settings to reduce the stress associated with HIV diagnosis and to improve openness to positive living health messages.

TUAD0403 “HAPPY IN MY OWN SKIN”: IMPACT OF ANTI-STIGMA INTERVENTIONS ON PEOPLE LIVING WITH HIV IN TORONTO, CANADA

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Presenting author email: achi108@gmail.com

Background: HIV stigma negatively affects the physical and psychological wellbeing of people living with HIV (PLHIV). While many stigma interventions have been carried out worldwide, few focused on both individual and collective empowerment. Community Champions HIV Advocates Mobilization Project (CHAMP) is an intervention study undertaken to mobilize PLHIV and non-PLHIV community leaders in HIV championship in the African, Caribbean, Asian, and Latino communities in Toronto, Canada.

*Authors’ Index*
Methods: CHAMP tested two anti-stigma interventions: Acceptance and Commitment Training (ACT) that enhances psychological flexibility, and Social Justice Capacity Building (SJC) that promotes collective empowerment. Participants were randomly assigned to take part in two intervention arms: SJC only, or ACT plus SJC. We used focus groups and validated scales to collect data before, immediately after, and 9-month after the interventions. In addition, monthly activity logs were used to capture participants’ post-intervention HIV and social justice championship activities.

Results: A total of 31 non-PLHIV and 35 PLHIV participated in CHAMP. Study results showed significant reduction in felt and enacted stigma in all intervention groups. This paper reports specifically on the impact of CHAMP interventions on PLHIV. Participants reported more self-acceptance; less felt stigma; improved psychological wellbeing; new confidence to speak out against stigma and social injustices; and having stronger social connections. Many had disclosed their HIV status to family and friends, and to leaders at church, college and community. Some took action to pursue their University. Sixty percent of participants collectively reported a total of 575 activities undertaken at personal, family, organizational, and community levels. These activities included: advocating for social justice (n=102); support for PLHIV (n=55); HIV education (n=59); addressing HIV stigma (n=109); community building (n=101); and collective empowerment (n=149). After CHAMP, they have initiated and carried out four participant-driven championship projects.

Conclusions: CHAMP demonstrated that the combined use of psychological and empowerment interventions are powerful in reducing stigma. ACT supported individual empowerment by addressing felt stigma and enhancing self-acceptance; SJC enabled PLHIV to locate their experience of stigma and discrimination in a collective context and build alliances for change. Coordinated efforts to scale up these interventions will contribute to effective HIV response and PLHIV empowerment.

TUAD0404

HIV VULNERABILITIES, GENDER AFFIRMATION AND SOCIAL RESILIENCE AMONG TRANSGENDER WOMEN IN LIMA, PERU: A COMMUNITY-BASED APPROACH TO HIV PREVENTION, CARE AND TREATMENT


Background: HIV vulnerability for transgender women in Lima, Peru is driven by social determinants of HIV, including social determinants of gender identity. This paper reports on a study conducted in Lima, Peru to understand HIV vulnerabilities, discrimination and social resilience as experienced by transgender women in Lima, Peru.

Methods: A community-based approach to HIV prevention, care and treatment was conducted in Lima, Peru. The study included focus group discussions and behavioral surveys. Data were analyzed using thematic analysis.

Results: A total of 31 non-PLHIV and 35 PLHIV participated in CHAMP. Study results showed significant reduction in felt and enacted stigma in all intervention groups. This paper reports specifically on the impact of CHAMP interventions on PLHIV. Participants reported more self-acceptance; less felt stigma; improved psychological wellbeing; new confidence to speak out against stigma and social injustices; and having stronger social connections. Many had disclosed their HIV status to family and friends, and to leaders at church, college and community. Some took action to pursue their University. Sixty percent of participants collectively reported a total of 575 activities undertaken at personal, family, organizational, and community levels. These activities included: advocating for social justice (n=102); support for PLHIV (n=55); HIV education (n=59); addressing HIV stigma (n=109); community building (n=101); and collective empowerment (n=149). After CHAMP, they have initiated and carried out four participant-driven championship projects.

Conclusions: CHAMP demonstrated that the combined use of psychological and empowerment interventions are powerful in reducing stigma. ACT supported individual empowerment by addressing felt stigma and enhancing self-acceptance; SJC enabled PLHIV to locate their experience of stigma and discrimination in a collective context and build alliances for change. Coordinated efforts to scale up these interventions will contribute to effective HIV response and PLHIV empowerment.

TUAD0405

CHANGING FORMS OF HIV STIGMA ALONG THE HIV CARE AND TREATMENT CASCADE: FINDINGS FROM A MULTISITE QUALITATIVE STUDY IN EASTERN AND SOUTHERN AFRICA

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Methods: Between 2015-2016 we conducted 35 in-depth interviews per site in Uganda, South Africa, Tanzania, Kenya, Malawi and Zimbabwe with (1) PLHIV purposively sampled from HIV clinics and HDSS databases linked to HIV clinic records; (2) health providers and (3) family members of people known to have died from HIV.

Topic guides explored patient and provider experiences of HIV testing, care and treatment services. Data were analysed thematically, aided by NVivo 10 software.

Results: Across all sites, anticipated stigma and discrimination were experienced at different points throughout the cascade. Poor privacy in some HIV testing facilities gave rise to concerns about confidentiality and subsequently fear of stigma. Additionally, powerlessness and coercion within patient-provider relationships often marked the initial cascade stages. To avoid being identified and stigmatised, patients sometimes changed their names when presenting at clinics, posing problems with monitoring of patients for better health outcomes. Non-integrated HIV services sometimes served to exacerbate ‘othering’ of patients, while in settings where services were supposedly integrated PLHIV were kept in separate waiting areas, accentuating their differences negatively. Women in PMTCT programmes often feared testing, as did fear of being seen accessing the services by community members. Moreover, many PLHIV took medication in secrecy for fear of exposing their status to partners and others.

Conclusions: Despite efforts to improve HIV care services, stigma remains pervasive across the HIV cascade in all of these sites, though it often manifests in different forms. Context-specific interventions are needed to address stigma and discrimination of PLHIV within the community and in health services, and greater reflection is required to ensure policies aiming to expand HIV treatment do not exacerbate stigma and result in negative HIV outcomes.
TUAEO1 HEALTHY MOTHERS, HEALTHY BABIES: THE PATH TO PMTCT

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Background: For nearly 15 years, mothers2mothers (m2m) has trained facility-based lay health workers in implementing a peer-to-peer “Mentor Mother” (MM) Model to support Prevention of Mother-to-Child Transmission (PMTCT) in sub-Saharan Africa. In 2015, m2m extracted a representative sample of their longitudinal clients to assess the relationship between exposure to facility-based MM visits, and key client health and behavioural outcomes along the PMTCT cascade. Methods: A stratified random sampling approach was used to identify a representative sample of 87 out of 350 m2m supported facilities in Kenya, Lesotho, Uganda, South Africa, Swaziland and Malawi. A census of longitudinal clients records was taken for clients (n=12 976) first enrolled in mothers2mothers care between June and November 2012, and concluding care in December 2014. Exposure status of clients to the m2m model was defined retrospectively by dividing the sample into a low exposure group comprised of clients who had one MM visit after an outcome under investigation had occurred and a high exposure group who had two or more MM visits before an outcome under investigation had occurred. Multivariate regression was then used to explore group differences after adjusting for key confounders. Results: Women with two or more MM visits were more likely to have an infant who was HIV-negative at the final test (AOR =6.4, p<0.001). MM visit exposure status was also positively associated with key behavioural and PMTCT uptake indicators (see Table). [Association between MM visit exposure and key behavioural and PMTCT uptake indicators]

Adjusted odds ratios Unadjusted Frequencies

<table>
<thead>
<tr>
<th>Indicator</th>
<th>AOR</th>
<th>p-value</th>
<th>2+ m2m visits</th>
<th>1 m2m visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Behavioural Outcomes Using Family Planning</td>
<td>1.26</td>
<td>0.012</td>
<td>74%</td>
<td>65%</td>
</tr>
<tr>
<td>Exclusivem breast feeding first 6 months</td>
<td>1.67</td>
<td>&lt;0.001</td>
<td>84%</td>
<td>75%</td>
</tr>
<tr>
<td>Antenatal Prophylaxis</td>
<td>3.86</td>
<td>&lt;0.001</td>
<td>96%</td>
<td>77%</td>
</tr>
<tr>
<td>Postnatal Prophylaxis</td>
<td>2.27</td>
<td>&lt;0.001</td>
<td>86%</td>
<td>74%</td>
</tr>
<tr>
<td>Uptake of Infant PMTCT Services Infant prophylaxis</td>
<td>1.60</td>
<td>0.017</td>
<td>96%</td>
<td>93%</td>
</tr>
<tr>
<td>Infant CPT</td>
<td>1.63</td>
<td>0.001</td>
<td>78%</td>
<td>72%</td>
</tr>
<tr>
<td>6-8 week PCR test</td>
<td>2.31</td>
<td>&lt;0.001</td>
<td>75%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Impact - Mother-to-Child Transmission Rate at 18 Months

Infant HIV status

| HIV-negative | 6.4 | <0.001 | 93% | 70% |

Conclusions: Within a longitudinal cohort of clients receiving m2m support, exposure to more Mentor Mother visits appears to be positively associated with better client behavioural and PMTCT outcomes along the treatment cascade. The study builds a pervasive case for the efficacy of peer-to-peer support models delivered by a paid cadre of lay counselors at the facility level.

TUAEO102 INCREASING RETENTION OF HIV-POSITIVE PREGNANT AND POSTNATAL WOMEN AND HIV-EXPOSED INFANTS: MEASURING THE EFFECTS OF FOLLOW-UP ACTIVITIES AND IMPROVED PATIENT MANAGEMENT IN RURAL UGANDA

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Background: In March 2013, Uganda adopted Option B+, providing lifelong antiretroviral therapy (ART) for all HIV+ pregnant women; however, only 40% of mother-infant pairs were retained in care by the end of the breastfeeding period. Retention must improve in order to achieve Uganda’s goal of eliminating mother-to-child transmission. A pilot was conducted in 2014 to evaluate the effectiveness of a package of interventions consisting of phone and home-visit follow-ups, strengthening the use of appointment books to track attendance, and patient-held appointment calendars. The study’s objective was to determine if retention increased for both HIV+ pregnant/postnatal women and HIV-exposed infants. Methods: A pre-post study was designed, selecting 20 rural facilities from six districts. Data were collected retrospectively for six months prior to and six months during the pilot period. Retention was defined as a woman or infant remaining in care for a minimum of five months after enrolment into the cohort, determined by the ART visit schedule. Retention rates were assessed by facility using weighted paired t-tests on cluster-level summaries. Results: 686 women and 358 infants were included in the pre-pilot implementation period; 604 women and 332 infants during the pilot. Retention in care for mothers increased from 72.8% to 80.3% (p=0.009). This was driven by women who initiated on ART during pregnancy, as their retention rates increased from 68.5% to 76.0% (p=0.031). Women under 20 had almost three times more of an increase in retention compared to women of older ages. Retention for HIV-exposed infants increased from 41.3% to 61.1% (p=0.001). 30% of appointments were missed during the pilot program requiring follow-up, of those missed appointments, 28% received follow-up. There was a 70% return rate for missed appointments relative to a 12% return rate for appointments that received no follow-up. Conclusions: The results of the pilot showed a significant impact on retention that will result in fewer HIV+ infants and better health outcomes for HIV+ mothers. Despite a low miss visit follow up rate, when conducted, the impact was substantial. In January 2016 Uganda adopted this model to be the national standard of care for follow-up of mother-infant pairs in all PMTCT sites nationwide.

TUAEO103 IMPACT OF A SYSTEMS ENGINEERING INTERVENTION ON PMTCT SERVICE DELIVERY IN CÔTE D’IVOIRE, KENYA, MOZAMBIQUE: THE SAIA CLUSTER RANDOMIZED TRIAL

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Background: Improving pMCTT effectiveness requires increasing the number of women-infant pairs passing through the multiple, sequential steps in the pMCTT cascade, and associated access to efficacious interventions. The Systems Analysis and Improvement Approach (SAIA) trial tested a package of systems engineering techniques to improve cascade flow. Prior systems engineering applications for PMTCT lacked comparison groups or randomization. Methods: The five-step SAIA intervention addresses cascade inefficiencies through 1) cascade analysis using an automated pMCTT Cascade Analysis Tool (P-CAT) with optimization function to identify largest potential gains across the cascade; 2) process mapping to identify workflow modifications; and 3-5) rapid, iterative testing of workflow modifications. A nine-month cluster randomized trial was conducted in 18 intervention/18 control facilities in Kenya, Côte d’Ivoire, and Mozambique, stratified by country and clinic volume. Registry data quantified HIV testing during first antenatal care (ANC) visit, antiretrovirals (ARVs) for HIV-positive pregnant women, and screening HIV-exposed infants (HEI) by 6-8 weeks. Change between baseline (01/2013-01/2014) and post-intervention (01/2015-03/2015) periods were compared using t-tests via intent-to-treat analyses. Results: Seventeen of 18 intervention facilities accepted the intervention. An average of one cycle was completed monthly falling into five categories: service...
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reorganization; expanding patient knowledge; improving team communication; improving data quality; and introducing new norms or technologies. Examples of service reorganization include increasing blood draw frequency (increasing CD4 testing from 25% to 56%), and reorganizing ANC flow (reducing wait times from 7.5 to 3.5 hours). ARV coverage increased three-fold, and HEI screening increased 17-fold in intervention vs. control facilities, though differences were not significant overall. In pre-specified sub-group analyses, ARV coverage increased significantly in Kenya (+20.9% [95% CI: -3.1-44.9]) in intervention vs. -21.2% [-52.7-10.4] in controls; p=0.02). HEI screening increased significantly in Mozambique (+23.1% [10.3-35.8] in intervention vs. +3.7% [-13.1-20.6]) in controls; p=0.04). HIV testing did not differ significantly between arms.

Conclusions: This first randomized trial of systems engineering to improve PMTCT saw substantially larger improvements in ARV coverage and HEI screening in intervention facilities compared to controls, which were significant in pre-specified sub-groups. The SAIA intervention was feasible and well-received by facility staff. Systems engineering could strengthen PMTCT services and protect infants from HIV.

TUAEO104
RETURNING HIV-EXPOSED INFANTS TO CARE: RESULTS FROM A PILOT INTEGRATING INFANT DEFAULTER TRACING INTO THE NATIONAL OPTION B+ PROGRAMME IN ILILONGWE, MALAWI

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Background: Despite high uptake of prevention of mother-to-child transmission (PMTCT) services early in the care continuum in Malawian’s Option B+ Programme, including HIV counseling and testing (90%) and antiretroviral therapy (ART, 79%), challenges remain with the post-natal care continuum, including high loss to follow-up (40% by 24 months of age) for HIV-exposed infants (HEIs). Poor HEI care retention undermines early diagnosis and treatment of HIV-infected infants, and threatens progress in reducing vertical HIV transmission in Malawi and elsewhere in sub-Saharan Africa. In response to this challenge, in October 2013 we launched an HEI “defaulter” tracing program at 20 health facilities in Lilongwe selected for high HEI census as part of the UNICEF Optimizing HIV Treatment Access (OHTA) initiative to increase timely uptake, adherence, and retention along the PMTCT care continuum.

Methods: We trained and mentored 737 community-based Health Surveillance Assistants (HSAs) from Ministry of Health (MOH) to perform tracing via phone contact and/or home visit. HSAs were mentored on accurate reporting using data collection tools from the MOH National HEI Follow-Up Programme, as well as OHTA-specific defaulter-tracing and HEI appointment registers. To support physical tracing, we provided 30 bicycles to health facilities and all HSAs with a modest monetary incentive (~$2 USD) for every HEI successfully reached.

Results: From October 2013—September 2015, we traced 2,707 HEIs who had fallen out of care (i.e. missing a scheduled follow-up appointment by ≥14 days). Of these, 2,078 HEIs (76.8%) were successfully reached by phone or home visit. Following tracing, 1,969 of 2,078 reached HEIs (94.8%) returned to clinic and were retained in care as assessed at ≥12, or 24 months of age (depending on HEI age at the time of tracing). Of these, 50 HIV-infected infants were identified (2.5%, 50/1,969) and all initiated ART (100%, 50/50).

Conclusions: Integrating HEI defaulter tracing into the public health system facilitated improved HIV care retention for HEIs, and successful HIV diagnosis and ART initiation for HIV-infected infants. Such an approach, implemented by community agents receiving mentorship, incentives, and field supervision, may be a strategy to strengthen HEI care retention and the post-natal PMTCT care continuum in Malawi.

TUAEO105
A MULTIPRONGED APPROACH TO THE ELIMINATION OF MTCT IN SOUTH AFRICA

K. Naouma1, T. Mtileni2, T. Mmoleki2, I. Odongo1, P. Robinson1, M. Mogashoa3, S. Bhadrwa1, P. Hole1, Y. Pillay1

Background: South Africa has the highest number of people living with HIV in the world, estimated at 6.4 million in 2012, with HIV prevalence of 29.5% in antenatal women, and mother-to-child transmission (MTCT) rate estimated at 3.5% at 6 weeks in 2010. In response to the Global Plan towards the elimination of MTCT, the National Department of Health (NDiH) developed and implemented the national elimination MTCT Action Framework entitled “No child born with HIV by 2015 and improving the health and wellbeing of mothers, partners and babies in South Africa”. The framework enabled evidence-based, accelerated, programme scale-up and delivery of quality services, with innovative data-driven action plans in all provinces and districts.

Description: Five key strategic pillars were identified for scaling up quality integrated prevention of MTCT services. Political leadership and commitment at the highest level resulted in accelerated national HIV response, including EMCT. Responsive changes in policy, for example, the move from single dose NVP to more efficacious triple antiretroviral (ART) regimens for PMTCT, coupled with quality improvement initiatives and task shifting, resulted in rapid scale-up of quality EMCT services. PMTCT was integrated into the maternal, child and women’s health programme to maximise service delivery platforms. The routine use of ‘robot’ dashboards and data-driven action reports ensured continuous monitoring, learning, and action planning. Significant progress was made towards targets of the plan. The number of children newly infected with HIV in South Africa declined by over 70% (2009 -2014). Over 90% of HIV positive women were receiving treatment for PMTCT (2015), a significant increase from the 63% in 2009. The coverage of early infant diagnosis of HIV increased in 45% to 89% in 2014, MTCT rate declined to 2.6% in 2012/2013. Infant HIV positivity rates at around 6 weeks declined from 5.8% in 2009 to 1.5% in 2015.

Lessons learned: High level political leadership, strong partnerships and robust monitoring and evaluation systems helped to accelerate response to elimination of MTCT.

Conclusions/Next steps: An evidence-based multipronged approach was critical for the success seen in the journey towards the elimination of MTCT in South Africa.

TUAEO106
HIGHEST RISK OF MOTHER TO CHILD TRANSMISSION OF HIV OR DEATH IN THE FIRST 6 MONTHS POSTPARTUM: RESULTS FROM 18 FOLLOW-UP MONTHS OF AN HIV-EXPOSED NATIONAL CORTOH, SOUTH AFRICA

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Background: Few resource-limited, high HIV prevalence settings produce data on national 18-24 month infant ‘mother-to-child transmission of HIV (MTCT)-or-death’ the gold standard measurement of programme impact. We studied South African national MTCT and ‘MTCT-or-death’ when health policy provided infant nevirapine during breastfeeding (Option A) and changed to triple antiretroviral therapy for all HIV infected women during pregnancy and lactation (Option B).

Methods: A nationally representative cross-sectional survey was conducted to estimate early (4-8 weeks postpartum) infant MTCT, Facilities (n=58) were selected following multistage probability proportional to size sampling methodology. Consenting caregivers of systematically or consecutively sampled infants (4-8 weeks old) receiving their six week immunisation, were interviewed. Infant dried blood spot specimens (IBS) were drawn and tested for HIV exposure and, if positive, for infection (total nucleic acid polymerase chain reaction - TNA PCR). Then, all HIV exposed infants (antibody, or maternal self-reported positive) were invited for facility-based follow-up at 3, 6, 9, 12, 15 and 18 months. At each follow-up visit caregivers were interviewed and infant tests were performed for HIV infection. Analysis was weighted for sample ascertainment, population live births, consent to follow-up (if eligible) and loss to follow-up.

Results: Analysis of 9120 IBS at 4-8 weeks revealed 33.1% infant HIV exposure (95% Confidence Interval, 31.8-34.4%) and 2.6% (2.0-3.2%) MTCT. 1880 (71%) HIV-exposed infants were followed up at 18 months. Cumulative MTCT and ‘MTCT-or-death’ by 18 months was 2.7% (2.6-3.6%) and 2.8% (2.6-3.9%); 3.5% (3.1-4.4) and 4.2% (3.5-5.4); 3.7% (3.2-4.6) and 5.1% (4.4-6.2); 3.9% (3.4-4.7) and 5.7% (5.0-6.8); 4.1% (3.5-4.8) and 6.0% (5.2-7.0); and at 18 months, 4.3% (3.7-5.0) and 6.2% (5.5-7.3) respectively. 81% of MTCT and 67% of ‘MTCT-or-death’ occurred by 6 months postpartum. Maternal receipt of CD4 cell-count result and avoiding breastfeeding protected against MTCT (Adjusted hazard ratio HRA, 0.3 [0.2-0.6]), and 0.3, [0.07-0.9]), respectively. Mixed feeding and infant nevirapine did not significantly
Methods: We used nationally representative (82% of retail pharmacies) de-identified data (Symphony Health Analytics) on individuals who received a TVD prescription from Jan 2013 to Dec 2015. The data warehouse contains medical claims, diagnosis codes, and patient and provider demographics. A validated algorithm was used to quantify TVD for PrEP use by excluding TVD for HIV treatment, HIV post-exposure prophylaxis and chronic Hepatitis B treatment. Logistic regression analyses were used to compare demographic data from TVD use for HIV treatment or PrEP.

Results: Between January 2013 and December 2015, 49,469 unique individuals started TVD for PrEP: 3,746 in 2013; 14,756 in 2014; 30,967 in 2015. 87.5% were male. Mean age was 37.4 years, with 11.5% under age 25. Fig 1 shows regional distribution of TVD PrEP starts over time. There were 19,274 prescribers across 50 states. Four states (CA, NY, TX, FL) with the highest HIV incidence account for 43.0% of PrEP starts. Compared to HIV positive patients, uninfected individuals receiving TVD for PrEP were 3.1 times less likely to be female (95% CI 3.0 - 3.2), but 1.98 times more likely to be under age 25 (95% CI 1.93 - 2.05).

Conclusions: The number of individuals starting on TVD for PrEP has increased nationally since the 2012 approval in the US, and is primarily male. States with the highest number of new HIV cases also had the highest number of TVD PrEP starts. Despite positive trends in TVD for PrEP use, utilization must increase to ensure lifetime risk seroconversion decreases in areas of high prevalence HIV in the US.
Tuesday 19 July
POSTER DISCUSSIONS

TUPOA01 HIV TRANSMISSION AND PATHOGENESIS

TUPOA0101 SELECTION OF HIV-1 VARIANTS WITH HIGHER TRANSMISSION POTENTIAL BY 1% TENOFUVIR GEL MICROBICIDE

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Background: In the CAPRISA 004 trial assigned to use 1% tenofovir microbicidal gel had higher HIV-1 viral loads and slower antibody avidity maturation compared to placebo participants. This study sought to determine whether tenofovir gel selected for viruses with altered characteristics which, in turn, influenced disease progression.

Methods: We analysed bulk gag sequences from the earliest time-point post-infection for 71 (n=28 TFV and n=43 placebo) participants who became infected during the CAPRISA 004 microbicide trial conducted in Durban, South Africa. The median (IQR) days post infection at which the sequence data were obtained were 84 (84-91) for women assigned to tenofovir gel and 84 (77-84) for women assigned to placebo. Genetic distances between sequences were estimated in MEGA version 5.1 (Tamura et al., 2011). The transmission index of a sequence was calculated as the mean of the expected log-odds of transmission for each site in the sequence, as estimated by a logistic regression model that included a second-order polynomial of cohort frequency, the number of co-varying sites, and offsets and cohort-frequency interactions for each protein domain. Transmission indices were computed out-of-sample using leave-one-out cross-validation.

Results: Sequences from the two groups (tenofovir and placebo) of the trial were interspersed on the phylogenetic tree, showing no lineage effects on the viruses infecting the two groups. Viruses within the tenofovir group were less diverse from each other compared to those from the placebo group (p<0.0001), suggesting constrained diversity of viruses infecting the tenofovir group. Furthermore, viruses from the tenofovir group were closer to the consensus sequence of regional strains (p<0.0001), and had higher transmission index (p=0.01), than those from the placebo group.

Conclusions: We identified multiple HIV-1 variants among sequences from 18 of 48 subjects, with some variants found at very low level initially and some variants being identified only temporally. SPVl for subjects replicating multiple founders was significantly higher than for subjects with single founders (4.82 vs. 4.08 log10 copies/ml, p=0.021).

TUPOA0102 CHARACTERIZATION OF HIV-1 GENOMES FROM 74 ACUTELY INFECTED SUBJECTS IN THE ACUTE INFECTION COHORT RV217

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Background: The early events of HIV infection are critical for disease progression and provide a path to develop anti-HIV strategies, we analyzed viral evolution during the first six months of HIV infection in 74 treatment-naive individuals enrolled in the RV217 acute infection cohort in East Africa and Thailand.

Methods: More than 2,000 HIV-1 negative individuals were enrolled and bi-weekly testing for HIV-1 RNA allowed to identify subjects during the earliest days of infection in Kenya (n = 9), Tanzania (n = 18), Uganda (n = 18) and Thailand (n = 29). HIV-1 genomes were sequenced following PCR amplification by endpoint-dilution from plasma samples.

Results: We sequenced 802 HIV-1 genomes from 74 subjects at a median of four days after HIV-1 diagnosis, a diagnosis that occurred a median of six days after the last negative visit. For a subset of 42 individuals, we sequenced 857 additional genomes obtained at a median of 32 and 171 days post HIV diagnosis. Sequences from the first time point were obtained before peak viremia, which occurred 12 days after diagnosis with viral loads reaching 6.55 log10 copies/ml (range: 3.96-8.46 log10 copies/ml). The median viral load setpoint (SPV1) was 4.31 log10 copies/ml (range: 2.43-5.96 log10 copies/ml). In East Africa, most individuals (n = 25) were infected with circulating recombinant forms (CRF) comprising subtype A1, C and D with 13 individuals infected with subtype A1 and seven with subtype C; in Thailand, 23 of 29 subjects were infected with CRF01 AE.

We identified multiple HIV-1 variants among sequences from 18 of 48 subjects, with some variants found at very low level initially and some variants being identified only temporally. SPVl for subjects replicating multiple founders was significantly higher than for subjects with single founders (4.82 vs. 4.08 log10 copies/ml, p=0.021).

Conclusions: Analysis of HIV-1 sequences earlier in infection and more frequently than before revealed a greater complexity in HIV-1 evolutionary processes and identified viral determinants associated with higher viral loads. Identifying HIV-1 features that determine SPVl will allow to better predict the transmission risk associated with specific HIV-1 variants.
TUPD0104
THE ASSOCIATION OF INJECTABLE PROGESTIN-ONLY CONTRACEPTIVES AND ENDODOGENOUS PROGESTINS WITH HIV TARGET CELL FREQUENCY IN THE CERVIX AND HIV ACQUISITION RISK

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1Ragon Institute of MGH, MIT and Harvard, Cambridge, United States, 2Females Rising through Education, Support and Health (FRESH) study. These women were at high risk of acquiring HIV, were living in Umzazi and were not pregnant. During the study, they were tested for HIV-1 two times per week; behavioral data along with blood and cervical samples were collected every three months.

Results: We characterized 423 HIV-uninfected women from the FRESH cohort. Of these, 152 women used IPCs, 222 used long-acting contraceptive and 43 used different forms of contraception. IPC users had a higher risk of acquiring HIV (2.06 per 100 person-years, 95% CI: 1.41-2.63) compared to women who used no long-term contraceptive (3.71 per 100 person-years, 95% CI: 1.09-7.686, p=0.0326). In the cervix, CCR5+ CD4 T cells (HIV target cells) were 3.92 times more prevalent in IPC users than in women using no long-term contraceptive (p=0.0241). Of women using no long-term contraceptive, those in the luteal phase of the menstrual cycle had 3.25 times the frequency of cervical target cells compared with those in the follicular phase (p=0.0488).

Conclusions: High progestin levels, either due to the use of IPCs or the luteal phase of the menstrual cycle, are associated with an increased frequency of HIV target cells in the cervix compared to women with low progestin levels, in the follicular phase of the menstrual cycle. Because the female genital tract is the site of HIV entry in most women who become infected, the higher density of HIV target cells in a high-progestin state provides a potential biological mechanism for the epidemiological observation of increased HIV acquisition risk in IPC users.

TUPD0105
THE MECHANISMS AND ROLE OF HPV IN ENHANCING HIV TRANSMISSION IN WOMEN IN SOUTH AFRICA

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Results: Baseline HPV prevalence was 73.8% (95% CI: 70.7, 76.9); with 70.3% of these infected participants presenting with an oncogenic strain. Participants with prevalent HPV infection were 2.8 times more likely to acquire HIV infection compared to those without HPV infection (HR 2.8, 95% CI: 1.3, 5.9, p<0.006). HIV risk was independent of the oncogenicity of HPV strains at baseline (HPV oncogenic strains HR 2.9 (95% CI: 1.3, 6.1) vs non-oncogenic strains HR 2.8 (95% CI: 1.3, 6.1)), and was also increased in the presence of multiple concurrent infections (HR 4.0; 95% CI: 1.8, 8.8). Compared to HPV uninfected women, acquisition, clearance, or persistence of HPV were each significantly associated with >6 fold increased rates of HIV acquisition, and elevated concentrations of several cytokines associated with HIV infection (including IL-8, MIP-1a, RANTES, IL-1a, IL-6). Further, in line with cytokine involvement in chemotaxis, the influx of CD4+ T cell targets for HIV infection was associated with HPV infection (p=0.032).

Conclusions: These data provide a plausible causal immunological link between two viral infections of critical public health importance, and suggest that increased HPV vaccination rates in young women could have important additional HIV prevention benefits.

TUPD0106
THE ENDOTOXIN-LIPOPROTEIN HYPOTHESIS, OBESITY AND HIV

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Background: An obesity paradox has been documented in many conditions including HIV infection, where those who are obese may have a survival advantage or improved disease outcomes. Lipopolysaccharide (LPS), an endotoxin, is a constituent of Gram-negative bacterial cell walls and known to produce proinflammatory responses. Sequestration of LPS by higher circulating lipoproteins in obesity has been suggested as mechanism for the obesity paradox known as the endotoxin-lipoprotein hypothesis and warrants further investigation in HIV.

Methods: A retrospective cross-sectional analysis of data and specimens from a nutritional study was conducted in 60 HIV ART-naive adults who were in the early stages of HIV disease in Botswana, Africa. Anthropometrics and bioimpedance were obtained. Blood was drawn for LPS, total cholesterol as a measure of circulating lipoproteins, CD4 count, and HIV viral load. Regression analyses were adjusted for age, gender and smoking.

Results: Among 60 ART-naive HIV+ asymptomatic adults, the median age was 33 years (IQR: 29-39) and 76.4% were women. The overweight/obese group had higher total cholesterol levels (4.08±0.85 vs. 3.50±0.65 mmol/L, P=0.007) than the normal weight group. Plasma LPS levels at or above the median (0.058 EU/ml) were associated with lower BMI (OR=0.79; 95% CI: 0.630, 0.990; P=0.041), lower total fat mass (OR=0.852, 95% CI: 0.757, 0.958, P=0.007), and higher HIV viral load (OR=2.60, 95% CI: 1.11, 6.124; P<). Higher LPS levels were also associated with a lower odds of overweight/obesity, BMI ≥ 25 kg/m² (OR=0.035, 95% CI: 0.004, 0.283; P=0.002). LPS levels at or above the median were also associated with lower total cholesterol levels (OR=0.360, 95% CI: 0.150-0.862; P=0.022), controlling for age, gender, smoking, and HIV viral load.

Conclusions: A possible explanation for the lower levels of LPS observed in those with higher BMI might be similar to the endotoxin lipoprotein hypothesis first described by Rauchhaus et al. (2000) to explain the endotoxin lipoprotein paradox in congestive heart failure. Higher circulating lipoproteins may reduce inflammation by binding to lipopolysaccharides and decreasing the release of proinflammatory cytokines. In HIV infection, viral load contributes to increased LPS.
EWS 5, low rates of viral load (VL) completion among patients eligible for routine testing significantly affected monitoring of viral suppression.

Conclusions: RAMs prevalence was compared for two periods: 2008-2011 vs. 2012-2014. The presence of mutations of HIV-1 resistance to first-line antiviral drugs among ART-naïve patients have been identified in six regions of Kazakhstan (from 1.9% to 4.2%). In three patients (0.8%) were identified TAMs to NRTIs: M41L, L210W and K219E/R. In four patients (1.1%) were identified resistance mutations to NNRTI: K103N, Y181C and Q215H. In 33% of 2008-2011 and 50% in 2012-2014 (p<0.05). Transmitted resistance was observed mainly for non-nucleoside reverse transcriptase inhibitors (NNRTIs): 14.3% in 2008-2011 and 17.8% in 2012-2014, being K103N the most common mutation. Among the ART-experienced HPW, 37.3% had RAMs: 33.3% in 2008-2011 and 50% in 2012-2014 (p<0.05). In the experienced HPW with ongoing ART subgroup, 50% had nucleoside reverse transcriptase inhibitors-RAMS and 45.8% had NNRTI-RAMS. In the experienced group with a history of (but not ongoing) ART-exposure, 17.1% had NNRTI-RAMS.

Conclusions: This sentinel study demonstrates an overall high prevalence of RAMs in HPW in Buenos Aires city, which remained stable over the two periods analyzed. Considering the >15% prevalence found in naïve HPW is above the threshold suggested by WHO for routine resistance surveillance in a certain population, access to genotypic tests should be warranted.

TUPB0103 HIV-1 DRUG RESISTANCE AND GENETIC DIVERSITY IN ART-NAIVE PATIENTS INFECTED IN 2013-2015 IN KAZAKHSTAN

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Background: Treatment of HIV-positive patients in Kazakhstan was launched 10 years ago. Every year an increasing number of cases of HIV-1 drug resistance among patients with failing first-line antiretroviral therapy. The aim of the study was to analyze prevalence of HIV drug resistance in ART-naïve patients infected in 2013-2015 in Kazakhstan.

Methods: 376 plasma samples from newly HIV-infected patients from 8 regions of Kazakhstan were tested. Isolation of HIV RNA, RT-PCR, sequencing of pro (1-99) and rev (35-265) genes were performed using diagnostic kit "AmpliSens-HIV-Resist-Seq". For interpretation of HIV drug resistance the software "Drona" was used. HIV subtypes were determined using the program Comet HIV-1 (http://comet.retrovirology.lu). The level of transmitted HIV drug resistance was determined by the software CPR (http://cpr.stanford.edu/cpr.cgi).

Results: In the study group the patients were 56.6% males; median age: 35,7 years; median CD4: 478/mm³; risk factors: heterosexuals (64.7%), MSM (3.0%), IDUs (31.4%), unknown (0.9%). 56.1% were infected with subtype of HIV-1 A1 (IDU-A variant); 38.6% - CRF02_AG; 2.9% - subtype B; 2.4% - other (CRF03_AB, CRF07_BC and URF). CRF02_AG is more prevalent in the southern regions of Kazakhstan (70.4% - 85.0%), while in the central and eastern regions of the country dominated HIV-1 subtype A1 (55.1% - 96.2%). The presence of mutations of HIV-1 resistance to first-line antiviral drugs among ART-naïve patients have been identified in six regions of Kazakhstan (from 1.9% to 4.2%). In three patients (0.8%) were identified TAMs to NNRTIs: M41L, L210W and K219E/R. In four patients (1.1%) were identified resistance mutations to NNRTIs: K101E, K103N, Y181C.

Conclusions: The study showed that in Kazakhstan the level of primary HIV-1 drug resistance to NNRTI/NNRTI is low. The highest level (4.2%) of primary HIV-1 drug resistance observed in large cities, where there is the greatest number of patients on ART.
Background: With access to viral load (VL) monitoring, the number of patients receiving second-line ART is increasing in resource-limited countries. We assessed virological response and second-line drug resistance in three large HIV-programmes to inform regimen-requirements, to evaluate patient outcomes and support forecasting of effective third-line drugs.

Methods: Between November 2014 and December 2015, patients aged ≥5 years receiving a standard second-line regimen for ≥6 months were recruited in three large HIV-programmes in Kenya, Malawi and Mozambique. Viral load (VL) was quantified and resistance-genotyping performed at baseline and ≥12 months following ART failure. We assessed the impact of resistance on VL and outcomes and support forecasting of effective third-line drugs.

Results: 824 patients were included (median age 41 years, 45.4% males). In Kenya: among 355 participants (26.9 month median duration of second-line; 71.6% 3TC-TDF-ATV/r), 18.3% (65/355) had VL ≥500 copies/ml, 13.2% ≥1000. Among those aged ≥19 years, 31.2% (20/64) had VL ≥500 copies/ml. Overall 24.6% (16/64) had major PI-resistance, 72.3% major NRTI-resistance, 80% major NNRTI-resistance, and 9.2% major etravirine-resistance (Stanford). Nineteen patients (29.2%) required replacement of ineffective NRTIs, 21 (32.3%) needed to start a third-line regimen (change of PI-component), with 3 children requiring pediatric formulations.

Conclusions: These findings indicate good virological suppression in patients receiving second-line ART. Failure rates were notably higher among children and adolescents, highlighting the need for enhanced monitoring. Resistance data were essential to inform optimal regimen choice. Preliminary results indicate good short-term outcomes of patients who needed ART change. Increased access to resistance genotyping and affordable salvage ARVs, including pediatric formulations, are needed.
Dolutegravir plus rilpivirine in suppressed heavily pre-treated HIV-infected patients

Achieving UNAIDS 90-90-90 targets in a high HIV burden district in South Africa, South Africa, Ramon y Cajal University Hospital, Infectious Diseases, Madrid, Spain, Ramon y Cajal University Hospital, Hospital Pharmacy, Madrid, Spain

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Background: Patients with previous multiple virological failures are frequently suppressed with complex, toxic regimens. We aimed to explore the role of dolutegravir (DTG) 50 mg plus rilpivirine (RPV) 25 mg once daily in fully suppressed patients with a history of repeated treatment failures.

Methods: Ongoing cohort study. Heavily pretreated patients with multiple virological failures and resistance mutations who were on complex suppressive therapy were switched to a QD dual regimen with DTG + RPV. Patients were excluded if resistance to integratease inhibitors (INI) or RPV was shown. Follow-up visits were scheduled at 4, 12, 24 and 36 weeks after switching. The main outcome variable was persistence of undetectable HIV RNA.

Results: We included 38 subjects. At study entry, median age was 53.4 years, 34% were women, 68% were prior IDU, 70% were HCV-positive, and 34% had AIDS. Median time of undetectable HIV RNA load with current regimens was 6.7 years. Patients were taking a median 4.3 pills before switching. Only 1/38 (2.6%) patients left the study due to gastrointestinal toxicity, and another one because of DDI with omeprazole. HIV-RNA remained below 3/copies/ml in 100% (38/38) at week 4, and 97% (37/38) at week 24. CD4 count kept stable after switching (median 631cells/mm³ at week 24). We observed a statistically improvement in triglycerides and liver tests, with no changes in total, HDL and LDL-cholesterol. CKD-EPI eGFR decreased from 85 to 74/mm/m²/1.73m² (95% CI 51.6-11.6, p=0.0002) at week 24.

Conclusions: Switching to a simple, dual regimen of DTG plus RPV in heavily pre-treated, multiply failed, suppressed HIV-infected patients is safe and highly efficacious.

TUPDC0106

Dolutegravir plus rilpivirine in suppressed heavily pre-treated HIV-infected patients

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Achieving UNAIDS 90-90-90 targets in a high HIV burden district in TUPDC0106

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Methods: Ongoing cohort study. Heavily pretreated patients with multiple virological failures and resistance mutations who were on complex suppressive therapy were switched to a QD dual regimen with DTG + RPV. Patients were excluded if resistance to integratease inhibitors (INI) or RPV was shown. Follow-up visits were scheduled at 4, 12, 24 and 36 weeks after switching. The main outcome variable was persistence of undetectable HIV RNA.

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Conclusions: Switching to a simple, dual regimen of DTG plus RPV in heavily pre-treated, multiply failed, suppressed HIV-infected patients is safe and highly efficacious.

TUPDC0107

Analysis of ADE- and Sex-Specific HIV Care Cascades in South Africa suggests unequal progress towards UNAIDS 90-90-90 treatment targets

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Background: South Africa has adopted UNAIDS’ treatment targets of 90% of people living with HIV (PLHIV) tested for HIV, 90% of those tested on antiretroviral treatment (ART), and 90% of those on ART having a suppressed HIV RNA viral load (VL). Using innovative record linkage techniques, we constructed HIV Care Cascades (HCC) to measure progress to these targets.

Methods: We defined the HCC for April 2014-March 2015 using four categories: 1) PLHIV, 2) engaged in HIV care, 3) on ART, and 4) virally suppressed. PLHIV numbers were estimated using population size and HIV prevalence data from StatsSA and the Human Sciences Research Council. Numbers engaged in care were calculated as the number of individual patients with a CD4 count or viral load during this period, as assessed in newly-deduplicated data from the National Health Laboratory Service. Patients on ART were reported from District Health Information System. Persons with a VL test result <400 copies/ml were considered suppressed. Results: Figure 1 shows HCC by sex and age group. Overall, 6.47 million PLHIV (61% female, 6% aged <15 years), of whom 53% were in care, 46% on ART and 26% VL suppressed. An estimated 3.02 million PLHIV were either not yet diagnosed with HIV or diagnosed but not engaged in HIV care. Men and children aged <15 years fared worse across the cascade.

Conclusions: Large gaps remain across the HCC in South Africa, particularly those engaged in HIV care. In order to meet the 90-90-90 treatment targets, 73% of PLHIV in South Africa need to be virologically suppressed (far higher than the current 46%). Increasing the testing and initiation of those newly diagnosed on ART will have the largest impact on meeting these targets. Excellent monitoring data linking patients to their laboratory results are essential.

TUPDC0108

Analysis of ADE- and Sex-Specific HIV Care Cascades in South Africa suggests unequal progress towards UNAIDS 90-90-90 treatment targets

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Background: The successful scale up of the national ART program in Botswana has almost reached the UNAIDS “90-90-90” goal (Gaolathe et al., CROI-2016). Cross-sectional HIV incidence needs to take into account ARV use to avoid mis-classification of HIV recency.

Methods: Using cross-sectional sampling HIV recency was estimated at the baseline of the Botswana Combination Prevention Project in 30 rural communities from Nov 2013 to Nov 2015. The algorithm for estimation of HIV recency combined Limiting-Antigen Avidity Assay (LAg) data, ART status and HIV-1 RNA load (as described in Rehle et al., PLoS One 2015;10:e0133255). The LAg cut-off normalized optical density was 1.5. ART status was documented. The HIV-1 RNA cut-off was 400 cps/mL. The Mean Duration of Recent Infection was 130 days and the False Recent Rate was 0.05.

Results: During the baseline household survey, a total of 3,596 individuals tested positive for 12,570 individuals with definitive HIV status. Among those testing HIV positive, 3585 (99.9%) had a research blood draw available, of whom 3580 (99.9%) had LAg data generated. Of those, 326 were identified as LAg-recent cases. Among those, 278 individuals were considered chronically infected based on their documented ART status. Among the remaining 48 ARV-naïve individuals, 14 had an HIV-1 RNA load >400 cps/mL. The Botswana MoH electronic medical records system was queried for these 14, 10 were found in the MoH data and evidence for initiation of ART was found for 5 individuals. ARV-naïve status could not be confirmed in 9 individuals. Thus, 34 LAg-recent, ARV-naive individuals with HIV-1 RNA above 400 cps/mL were classified as individuals with recent HIV infections. HIV incidence was estimated at 1.06% (95% CI: 0.70%-1.42%). Including 9 virologically suppressed individuals with uncertain ART status brings the estimate of HIV incidence to 1.34% (95% CI: 0.91%-1.77%).

Conclusion: Use of algorithm including LAg-Avidity EIA, documented ART status and HIV-1 RNA load, cross-sectional HIV incidence in 30 rural communities in Botswana was estimated at 1.061±1.34% in 2015-2016. Given the high level of ART scale-up in Botswana, studies able to identify HIV transmission sources and reduce HIV incidence are warranted.

TUPDCO103

ASSSESSMENT OF THE IMPACT OF EARLY ART ON SEXUAL BEHAVIOUR IN INSIGHT STRATEGIC TIMING OF ANTIRETROVIRAL TREATMENT (START) TRIAL


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Background: Antiretroviral treatment (ART) reduces HIV infectiousness, but effect on sexual behaviour is unclear. The effect of early versus deferred ART on condomless sex was assessed in the START trial.

Methods: HIV+ people with CD4>500 mm$^{-3}$ were enrolled from 35 countries (April 2009 to December 2013) and randomised to immediate or deferred (CD4< 350 cells/mm$^3$) ART. A sexual behaviour questionnaire was completed at baseline, 4, 12 and 24 months. Three risk measures were used:

(i) all condomless sex (CLS)
(ii) condomless sex with HIV negative (or unknown status) partners (CLS-D)
(iii) HIV transmission risk sex defined as CLS-D and not on ART for ≥6 months

(i) all condomless sex (CLS)
(ii) condomless sex with HIV negative (or unknown status) partners (CLS-D)
(iii) HIV transmission risk sex defined as CLS-D and not on ART for 26-months or viral load (VL) <200c/mL or no VL within 6 months (CLS-D-HIV risk). The pre-planned primary outcome was CLS-D at month 12, with separate analyses for men-who-have-sex-with-men (MSM) and heterosexuals.

Results: 4685 HIV+ participants were randomised; 2620 (55.9%) MSM; 808 (17.3%) heterosexual men; 428 (9.2%) women. Recruitment region: 33% Europe/Is, 25% Latin America; 21% Africa; 11% N America; 8% Asia; 3% Oceania. Median (IQR) age 36 years (29, 44); 45% reported White, 30% Black and 14% Hispanic ethnicity.

1725 (36/405) reported CLS-D at baseline (MSM [20%], heterosexuals [13%]). Among MSM, there was no difference in CLS-D prevalence at month 12 or month 24. Among heterosexuals, at month 12, CLS-D prevalence was 11% in the immediate arm vs 8% in the deferred arm (p=0.066) and at month 24, 10% vs 6% (p=0.004). In both MSM and heterosexuals, CLS-D-HIV risk was substantially lower in the immediate vs deferred arms at months 12 and 24 due to VL suppression on ART.

TUPDCO104

HOW CLOSE TO 90-90-90? MEASURING UNDIAGNOSED HIV INFECTION, ART USE AND VIRAL SUPPRESSION IN A COMMUNITY-BASED SAMPLE FROM NAMIBIA’S HIGHEST PREVALENCE REGION


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Background: Data on the continuum of HIV care are necessary to track progress in the response to the epidemic; however, they are difficult to obtain, particularly at a sub-national level. We directly measured HIV diagnosis, receipt of ART, and viral suppression in a community-based sample of adults in Zambezi, the region of highest HIV prevalence in Namibia.

Methods: A cross-sectional, household-based survey was conducted from 12/2014 - 7/2015 in five purposively selected sites of Namibia’s Zambezi region. Adults received HIV rapid testing using the national algorithm, completed behavioral interviews, and submitted dried blood spots (DBS) in their homes. Previous HIV diagnosis and receipt of ART within the past 90 days were measured through self-report and verified in patient-carried records when available. HIV-RNA viral load was quantified using DBS (Abbott Real-Time HIV-1 m2000 platform). Multivariable logistic regression was used to characterize disparities in outcomes.

Results: We enrolled 2,163, adults, of whom 1,312 (60.7% [95%CI: 58.6-62.7]) were female and 461 [21.3% [95%CI: 19.6-23.1]] were HIV-positive. Among HIV-positives, 293 [63.6% [95%CI: 59.0-68.0]] were previously diagnosed. Among those diagnosed, 242 [82.6% [95%CI: 77.8-86.8]] were receiving ART. Of 209 DBS tested from participants receiving ART, 170 [81.3% [95%CI: 75.4-86.4]] were virally suppressed (i.e., < 1000 copies/μL), which equates to 36.9% [95%CI: 32.5-41.5] viral suppression among all HIV-positive adults. HIV diagnosis was significantly lower among men [Adjusted odds ratio (AOR): 0.24, P < 0.001] and youth (< 25 years) (AOR: 0.15, P=0.02). Receipt of ART was somewhat lower among rural residents (AOR: 0.33, P=0.08). Viral suppression was significantly lower among youth (< 25 years) (AOR: 0.37, P=0.003).

Conclusions: With 83% of previously diagnosed adults receiving ART and 81% of those on ART achieving viral suppression, the second and third benchmarks of the UNAIDS “90-90-90” targets are within reach for adults in Zambezi region. However, serostatus awareness among HIV-positive adults was well below the 90% target, especially among men and youth. The overall prevention impact may be limited with only 37% of HIV-positive adults having unsuppressed virus. If the population-level prevention benefits of ART are to be maximized, “test and start” policies must be strengthened with new interventions to improve serostatus awareness.
Falls, Zimbabwe, 1.28; IQR: 0,1.92). 18% on ART had PCR>1000c/mL (14%>10,000; 7%>100,000).

Mean PCR was 45,119c/mL (median 19; IQR: 0, 83); Mean log PCR 1.37 (median (p=0.001). There were no statistically significant differences between patients follow 20 years of age compared to 85% of those above 20 were virally suppressed was achieved in 82.7% (86% of females,79% males; p=0.006). 57% of those be and, of these, 90% were on ART for more than 12mos. Viral suppression (VL< 1000) than what has been achieved in most rural districts in Zimbabwe. We analysed the

Results:

the third "90". HD, 11,661(96%) adults and 622(81%) children were receiving ART through the pub

Zimbabwe(ZIM) with a prevalence of 18% against a national prevalence of 14.9%. In

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K. Ngarivume6, T. Masungo7, R.W . Carroll8, P . Greiger-Zanlungo9, G. Blick10

N. Masuka1, T.P . Goverwa-Sibanda2, T. Maphosa3, E.S. Tshuma4, W . Kurauone5,

Methods:

ART in Dec 2013, VL testing in ZIM is still very low, having achieved 3% in 2014. This

ment. Despite the adoption of viral load(VL) as gold standard to monitor patients on

lic health sector by end 2015. The need to monitor such a large cohort of patients

Conclusions:

Conclusions: Routine VL testing to be done on all patients on treatment and fol-

low-up to be made on all patients who were not virally suppressed. There is need to

capacitate the program to conduct Drug Resistance testing for failing patients. Special focus and close monitoring needs to be placed on adherence support for adolescents and young adults to improve adherence to treatment.

TUPDCO 106

ANALYSIS OF THE EFFECTIVENESS OF THE D1/ART PROGRAMME IN HWANGE DISTRICT, MATEBELELAND NORTH PROVINCE, ZIMBABWE: LESSONS LEARNED FROM VIRAL LOAD ROLL-OUT PROGRAMME

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Background: Hwange district(HD) is one of the districts with a high HIV burden in Zimbabwe(2014) with a prevalence of 18% against a national prevalence of 14.9%. In HD, 11,661(96%) adults and 622(81%) children were receiving ART through the public health sector by end 2015. The need to monitor such a large cohort of patients becomes very important with the country's adoption of the "90-90-90" commit- ment. Despite the adoption of viral load(VL) as gold standard to monitor patients on ART in Dec 2013, VL testing in HD is still very low, having achieved 3% in 2014. This was even lower in Hwange district. The Ministry of Health and Child Care began a nationwide VL Roll-Out Programme in June 2015.

Methods: The district received a TaqMan96 VL analyzer through partner support and, of these, 90% were on ART for more than 12mos. Viral suppression (VL< 1000) was achieved in 82.7% (86% of females,79% males; p=0.006). 57% of those below 20 years of age compared to 85% of those above 20 were virally suppressed (p=0.001). There were no statistically significant differences between patients followed-up through outreach into the rural communities (81.2%) and at the municipal hospital (83.1%) (p=0.31).

Mean PCR was 45,119c/mL (median 19; IQR: 0, 83); Mean log PCR 1.37 (median (1.28; IQR: 0.9, 1.92). 18% of ART had PCR>1000c/mL (14%=10,000; 7%=100,000).

Conclusions: While no difference in condomless sex with soro-differen partners (CLS-D) was noted between immediate vs deferred arms among MSM at 12 or 24 months, among heterosexuals there was evidence of higher levels of CLS-D in im-

mediate vs deferred.

TUPDCO 106

HUMAN RIGHTS, WROiDS AND REALITIES: TRANSLATING FRAMEWORKS INTO ACTIONS

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Background: Despite high levels of HIV transmission in prisons and the southern Africa region’s disproportionate share of the global HIV burden, South Africa and Lesotho are the only two countries in the region in which condom access is refused to pris-

oners. A legal argument is developed to establish that prisoners have a right to pre-

ventative care which includes access to condoms, irrespective of criminal provisions outlawing consensual same-sex sexual acts or legal restrictions on sexual contact in prisons.

Results: Prisoners have a legal right to access preventative care interventions and prison authorities are legally obliged to prevent the spread of disease in prisons. By applying a “doctrine of double effect” to the position of prison health authorities who distribute preventative measures such as condoms, the fulfilment of this obli-

gation is legally justified irrespective of criminal sanctions or administrative prohibi-

tions against sexual contact between prison inmates.

Conclusions: Advocacy to advance prison health services in southern Africa, through ensuring access to condoms and other measures to prevent the sexual transmission of HIV between prisoners, can be strengthened by legal arguments within existing legal frameworks. While criminal sanctions against consensual same-sex sexual acts ought to be challenged as infringing human rights protections and harming public health imperatives in the same way, motivating access to preventative care for prisoners need not necessarily be reliant in legal argument on the reform of those laws. Supporting advocacy initiatives within the existing legal frameworks may assist in countering popular justifications cited as legal impediments to making HIV prevention methods accessible in prisons.

TUPDCO 102

“MMANGWANA O TSHWARA THIPA KABOHALENG” - THE MOTHER OF A CHILD HOLDS THE KNIFE ON THE SHARPER EDGE: IMPROVING HEALTH OUTCOMES FOR CHILDREN OF SEX WORKERS

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Background: “Children of sex workers deserve the right to education, health and safety, the government should respect my job and decriminalise sex work for my children’s future” - Duduzile Dlamini, Sisonke Mobilizer and Mother’s for the Future founder. While sex workers enter the industry for numerous and complex reasons, one reoc-

curring theme that motivates many sex workers is children. A survey of 200 South African female sex workers by the Sex Workers Education and Advocacy Taskforce found that those participating in the study were supporting 279 children in total. Studies have also shown incredibly high HIV prevalence rates among female sex workers in South Africa (ranging between 39.7% - 71.8%). What these studies show is that mothers whose primary source of income is sex work, are in a very precarious and extremely vulnerable situation. Not only is their work fully criminalised
A strong human rights framework is essential.

Conclusions/Next steps:
- Analysis of new/emerging trends and developments around labour migration and associated HIV vulnerabilities
- Analysis of gender-specific dimensions of migration and their impact on HIV, health and migration policies
- Overview of international human rights law guiding guide labour migration governance and its interaction with health and social protection.
- Overview and examples of good practices around HIV and health programmes for migrants across countries/regions

The end result is a global framework for action which includes:
1) recommendations and evidence-informed guidance on integrating access to HIV and health services into labour migration processes at all stages of migration; and
2) roles/responsibilities of national stakeholders on policy making and programme implementation around HIV and health issues in the context of migration.

Lessons learned:
- A fair labour migration agenda must address health deficits experienced by migrants in countries of origin, transit and destination. Bilateral agreements and migration policies and programmes should thus integrate health service access for migrant workers.

Conclusions/Next steps: Based on the Framework, the ILO will seek to engage organisations working on migration and HIV in coordinated efforts to:

- Guide development and implementation of policies and programmes to ensure fair labour migration practices that increase migrants’ access to health services,
- Guide national stakeholders in integrating HIV and health programmes for migrant workers into national migration policies and bilateral agreements.

**TUP000103**

**HUMAN RIGHTS AND ETHICAL DILEMMAS IN THE IMPLEMENTATION OF OPTION B+ IN MALAWI**

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**Background:** Malawi pioneered Option B+ in July 2011. There have been concerns that with Option B+ pregnant and lactating women are forced to undergo HTC and start ART. The approach is also perceived as discriminatory as it offers ART only to women and not their spouses who may also be HIV+. Overall the delivery of Option B+ is perceived as a threat to patients’ rights concerning consent, confidentiality and counselling. This study explored people’s perceptions about human rights and ethical issues surrounding the delivery of Option B+ in Malawi.

**Methods:** We collected data in 15 districts across Malawi. We conducted 18 key informant interviews at national level, 84 interviews with women on Option B+ and their spouses, 28 interviews with community leaders; 56 focus group discussions with community members, 42 focus group discussions with women on Option B+ and 42 interviews with service providers. Content analysis was used to analyse the data.

**Results:** While some study participants viewed Option B+ as mandatory, hence breaching women’s right to make decisions, most of them reported that women make their own decisions after appropriate counselling. Most study participants had no problems with the prioritization of pregnant and lactating women as it aimed at ensuring babies were born HIV uninfected. A few study participants, however, said that the procedure is ethically unfair as it does not offer ART to spouses who may also be HIV+ and this may cause strained relationships within the household. Lack of male involvement, fear of divorce, fear of stigma and discrimination and in some cases the low quality of counselling services constitute the most common barriers to Option B+ implementation.

**Conclusions:** There were a few participants who raised human rights and ethical issues surrounding implementation of Option B+. However the advantages of the program including improved health and ensuring children are born free of HIV outweigh the human rights and ethical concerns.

**TUP000104**

**A RIGHTS-BASED APPROACH TO HIV, FAIR MIGRATION AND HEALTH: A GLOBAL FRAMEWORK FOR ACTION**

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**Background:** The ILO estimates that there are 232 million migrant workers worldwide - 48% are women. Many face obstacles that place their health at risk and heighten their vulnerability to HIV.

To reduce migrants’ HIV risk it is essential to ensure their equal access to health services in countries of origin, transit and destination.

Migration alone is not a risk factor for HIV, but factors associated with migration are.

These include discrimination, poor living/working conditions, sexual violence during migration and unfair migration practices.

**Description:** The ILO has developed a Framework Guidance Document to promote engagement and support contributions of all partner organisations to the new UN AIDS Strategy 2016-17 in the areas of migration and mobility. The Framework contains four key elements:

- Analysis of new/emerging trends and developments around labour migration and associated HIV vulnerabilities
- Analysis of gender-specific dimensions of migration and their impact on HIV, health and migration policies
- Overview of international human rights law guiding guide labour migration governance and its interaction with health and social protection.
- Overview and examples of good practices around HIV and health programmes for migrants across countries/regions

The end result is a global framework for action which includes:
1) recommendations and evidence-informed guidance on integrating access to HIV and health services into labour migration processes at all stages of migration; and
2) roles/responsibilities of national stakeholders on policy making and programme implementation around HIV and health in the context of migration.

Lessons learned:
- A fair labour migration agenda must address health deficits experienced by migrants in countries of origin, transit and destination. Bilateral agreements and migration policies and programmes should thus integrate health service access for migrant workers.

Conclusions/Next steps: Based on the Framework, the ILO will seek to engage organisations working on migration and HIV in coordinated efforts to:

- Guide development and implementation of policies and programmes to ensure fair labour migration practices that increase migrants’ access to health services,
- Guide national stakeholders in integrating HIV and health programmes for migrant workers into national migration policies and bilateral agreements.

**TUP000105**

**IMPLEMENTING A HUMAN RIGHTS MONITORING AND RESPONSE SYSTEM (REACT) IN BURUNDI**

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**Background:** Link Up is a four year project funded by the Dutch government aimed at improving the sexual and reproductive health of young people from key populations in Bangladesh, Burundi, Ethiopia, Myanmar and Uganda. Rights-Evidence-Action (REAct), is a human rights monitoring and response system developed by the International HIV/AIDS Alliance to help provide evidence for human rights programming in Link Up.

**Description:** Alliance Burundaise contre le SIDA (ABS) has trained two of its implementing partners - RNH (young people living with HIV) and Humure (LGBTI association) - on REAct. REAct is a community-driven system, which community-based organisations use to document human rights-related barriers in accessing HIV and health services and human rights violations. Information collected through interviews is used to provide individual responses to violations and to inform human rights-based HIV programming.

ABS, RNH and Humure will be implementing REAct in Burundi’s fragile and conflict affected context. The Burundi team is already aware of many cases of physical violence and discrimination faced by young people living with HIV and the LGBTI and sex work communities when accessing HIV and SRHR services.

**Lessons learned:**
- It was important to develop customised questionnaires in French, specific to people living with HIV, LGBTI and sex workers in Burundi
- Young people living with HIV and young LGBT people are well placed to administer the questionnaires and respond to clients’ immediate needs because of their regular contact with clients
- Rights violations identified by implementing organisations in preparation for the documentation of cases through REAct include refusal to provide post-abortion care (abortion is highly restricted); discrimination of children living with HIV in schools; refusal to treat MSM in healthcare facilities; breach of confidentiality in healthcare settings; and failure to obtain clients’ informed consent to receive services

Conclusions/Next steps: Collecting evidence of human rights violations is an essential step in advocating for law reform and policies to address violence and discrimination against young people from key populations. It is possible to document human rights violations in conflict affected countries; and ensuring the safety and security needs of interviewers and interviewees is a critical part of the training for the project.
TUPD0106

REMOVING HUMAN RIGHTS BARRIERS TO EVIDENCE-BASED HIV PREVENTION, CARE AND TREATMENT: WHAT DO WE KNOW?

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Conclusions: Human rights barriers to evidence-based HIV prevention, care and treatment efforts act as structural impediments to efforts to engage key populations at risk of HIV infection in HIV prevention, care, and treatment efforts. The identification of human rights programmes and rights-based interventions that enable coverage of and retention in evidence-based HIV prevention and treatment approaches is crucial for achieving an AIDS-free generation.

Methods: We conducted a systematic review of studies that assessed the effectiveness of human rights interventions on improving HIV-related outcomes between 1/1/2003-28/3/2015. A comprehensive and systematic search protocol was iteratively developed including databases for both peer-reviewed and non-peer-reviewed reports. Ancestry searches for articles included in the review were also conducted. Studies of any design that sought to evaluate an intervention falling into one of the following key human rights programme areas defined by UNAIDS were included: removing human rights barriers to access to information and HIV prevention, testing and care services among young key populations in Brazil.

Results: Of 31,861 peer-reviewed articles and reports identified, 24 were included in our review representing 15 different populations across 14 countries. The majority of studies incorporated two or more of the principles of the human rights-based approach, most often non-discrimination and accountability, and sought to influence two or more elements of the right to health, namely availability and acceptability. Half of the interventions addressed multiple UNAIDS’ key programme areas, with monitoring and reporting laws and sensitizing laws making the most common. However, most interventions targeted a single socio-ecological level, namely public policy. Outcome measures varied considerably, making comparisons between studies difficult, and only a few studies explicitly referenced the promotion and protection of human rights.

Conclusions: The majority of studies reported a positive influence of human rights interventions on HIV-related outcomes. Yet, limited financial support for methodologically sound evaluations of human rights interventions limits the generalizability of these findings. Fast-tracking HIV prevention and expanding treatment approaches to achieve sufficient coverage will require effective structural interventions implemented in coordination with biomedical approaches.

TUPD0107LB

IMPACT OF CLOSING SPACE FOR CIVIL SOCIETY ON LGBT GROUPS IN KYRGYZSTAN, INDONESIA, KENYA, AND HUNGARY

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Background: In response to both the threat of terrorism and to growing populist pressure for transparency and government accountability, many countries are using new laws and tactics to restrict freedom of association and freedom of expression. The study by Global Philanthropy Project, a network of private foundations, aimed to assess the specific impact of civil society restrictions on LGBT groups through four case studies.

Methods: Kyrgyzstan, Indonesia, Kenya and Hungary were selected as representative of trends in the four regions of Central Asia, Southeast Asia, East Africa and Europe. Over two months, researchers conducted desk review, as well as guided interviews with 19 LGBT activists, scholars, human rights experts and UN officials from the four countries.

Results: The report finds that while the four contexts had key differences, overall LGBT groups have always faced restrictions. In recent years a combination of new “LGBT propaganda” laws, resurgent nationalism, religious fundamentalism, and political scapegoating of LGBT people as “foreign agents” promoting “foreign values”, together combine to heighten the risk environment to individuals and groups. LGBT groups are also forming new alliances and developing innovative approaches to continue their work.

Conclusions: UN partners and donors should monitor ways that closing space for civil society impacts on LGBT groups, which are critical as partners, watchdogs and HIV service providers; and should support LGBT alliance-building and advocacy to resist closing space.

TUPD0201

A HACKATHON FOR HIV AND STD PREVENTION: USING MOBILE TECHNOLOGIES TO EXPAND ACCESS TO INFORMATION AND HIV PREVENTION, TESTING AND CARE SERVICES AMONG YOUNG KEY POPULATIONS IN BRAZIL

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Background: Brazil already counts on more mobiles than inhabitants: over 269 million active mobile phone lines in the country. More than 40% of young people in Brazil (aged 18-24) report mobile phone as most used device to access internet. The Brazilian Association of Companies for the Sensual and Erotic Market and UNAIDS have joined forces to promote the 1st Hackathon on HIV and STD Prevention, aiming to develop innovative mobile apps and games that can support the expansion of access to information and health services among young people - a vulnerable group that has been facing significant increase on HIV infection rates in the past 10 years.

Description: A hackathon is a digital marathon that gathers several different professionals involved in software programming including IT programmers, designers, communication professionals, entrepreneurs and others interested in technology. The Hackathon on HIV and STD Prevention was developed in two phases: 1) Information sessions (TED-Talk style meetings were carried out with the participation of specialists from health sector, sexuality, entrepreneurs and technology professionals, presenting different perspectives and opportunities in the market to the teams participating to the Hackathon; 2) Technology Marathon - 24 hour event for the development of apps/games and for the selection of best projects. Mentorship for the IT teams was provided by young MSM and young people living with HIV and health professionals (including UNAIDS technical advisers) to guarantee that the projects developed were based on real needs in prevention and human rights.

Lessons learned: The use of IT opens up a world of new possibilities to promote HIV prevention and care especially with young key populations. Bringing together young IT professionals with young MSM and PLHIV is fundamental to the development of innovative projects that are feasible, attractive and with cutting-edge and appropriate language.

Conclusions/Next steps: Mobile apps market assessment needs to be taken into consideration given the huge number of free mobile apps/games competing for the attention of young audiences. The partnership with the erotic market is innovative and fruitful and represents an enormous potential to eroticize safe sex and to support the reinvention and update of HIV prevention messages.

TUPD0202

‘ONCE YOU START WATCHING THIS SHOW, INTERSECTIONS, IT’S EASIER TO GET TO THE POINT THAT YOU REALLY WANT TO TALK’: HOW VIEWERS’ IDENTIFICATION WITH INTERSECTIONS IFACTILATED NEW COMMUNICATIVE SPACES

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Background: The successful South African television drama series, Intersections, consisted of 26 interlinked episodes. While Intersections I portrayed the risks of multiple and concurrent partnerships by mapping a fictional sexual network, Intersections II (2013) portrayed how keeping secrets can increase risk of HIV infection through what is left unsaid or hidden in one’s personal and sexual relationships.

Methods: A qualitative post-broadcast evaluation consisting of 14 focus groups and 12 interviews was conducted in six provinces with 122 regular viewers of the series. Participants needed to have watched at least half the episodes and reflected
a mix of urban, peri-urban and rural localities. Discussions were audio-recorded, transcribed and analysed using NVivo.

Results: By portraying relevant and realistic themes, Intersections’ unusual dramatic formula succeeded in raising awareness about the influence of communication and the sexual network on HIV risk. Reported forms of interpersonal communication demonstrated that the drama series provided a useful tool to communicate sexual health concepts and life lessons with sexual partners, family and friends. Such conversations strengthened norms around open communication and greater critical consciousness about the limits of trust and the potential consequences of having sexual secrets. The episodes became more than ‘just an episode’ in the way they prompted meaningful conversation and critical reflection about topics that were previously considered too taboo to comfortably discuss. Watching Intersections thus spurred a new level of openness in a number of participants’ family, peer and sexual relationships and for some, engagement with the series sparked meaningful self-reported behaviour change.

Conclusions: The power of mass media to create much needed spaces for interper- sonal dialogue and conversation about sexuality, relationships, and HIV prevention is significant. Both Intersections series appear to have broken through the silence and cultured ‘HIV fatigue’ that often accompanies efforts to raise awareness about HIV prevention, care and support. By moving viewers beyond the simple ‘ABCs’ of HIV prevention to asking critical questions about the quality of their relationships and the ways that communication and secrets in particular contribute to HIV risk, Intersections may have contributed to a more complex and multifaceted shift in the national consciousness around HIV prevention.

TUPD0203 DEVELOPMENT OF A MOBILE-BASED APPLICATION TO INCREASE UPTAKE OF HIV TESTING AMONG YOUNG U.S. MEN WHO HAVE SEX WITH MEN

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Background: Young men who have sex with men (YMSM) accounted for 72% of new HIV infections among all persons aged 13 to 24, and 30% of new infections among all MSM. However, overall rates of testing among young adults are suboptimal. Though mobile app use is nearly universal among US YMSM, there are currently no HIV prevention mobile phone apps developed specifically for YMSM, suggesting a need for further research to develop these interventions.

Methods: We conducted six focus groups with 33 participants (mean age=21.8, range 17-24; 36% Hispanic/Latino, 33% Black, non-Hispanic; 18% White, non-Hispanic, 12% other) in Boston, Chicago and Los Angeles. During focus group discussions, participants were shown an app developed to increase HIV testing for adult MSM, HealthMindr, and screenshots of potential adaptations, and provided feedback on the utility of the app, functionality of the various app features and how to best optimize the current app for use by young people prior to adaptation.

Results: Participants found the essential functions of the current app to be generally useful, including the ability to locate an HIV/STI testing site near them. They suggested adding the ability for the app to “ping” them when near a testing site and due for a test. Participants remarked that this would help overcome the obstacles associated with planning, such as forgetting to test, and would remove the responsibility of finding a testing location. While participants felt that the app contained an abundance of useful information and access to materials on HIV testing, PrEP and sexual health, they described the language and appearance as being very “medical” and unappealing to youth, suggesting changes to the interface, including use of avatars, infographics and less formal language.

Conclusions: Overall, participants liked the app and suggested that it would help them to increase the frequency and acceptability of HIV/STI testing and improve their general sexual health. However, suggestions for changes were provided. Further app development and testing is warranted.

TUPD0204 CHARACTERISTICS OF BISEXUAL MEN WHO USE THE INTERNET TO SEEK SEX WITH OTHER MEN IN ONTARIO, CANADA

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Background: The use of the internet to seek sexual partners is associated with increased HIV sexual risk behaviours for men who have sex with men (MSM). Little research, however, focuses specifically on bisexual MSM who use the Internet to seek sexual partners. In this analysis, we examined: 1) differences between bisexual and other-identified MSM with regard to HIV status, online sexual health outcomes, and condom use/non-use; 2) factors associated with condom use/non-use during the most recent anal intercourse for bisexual men.

Methods: Data were drawn from an online survey targeted at MSM in Ontario. Using logistic regression analysis and chi-square tests we assessed differences between bisexual-identified MSM and other-identified MSM (gay, queer) with regard to HIV status, online sexual health outcomes, and condom use/non-use. Following this, we used logistic regression to examine factors associated with condom use during the most recent anal intercourse for bisexual men. All results were considered significant at p < .05.

Results: The study included a total of 1830 MSM. Among these men, 438 (24.0%) indicated “bisexual” as their sexual orientation. Bisexual men were less likely than non-bisexual-identified men to be HIV-positive (2.4% versus 9.9%; OR=0.23, 95%CI:0.18-0.43), to have been recently tested for STIs (45.4% versus 65.3%; OR=0.44, 95%CI:0.35-0.55), and to receive sexual health information online (74% vs. 85.3%; OR=0.63, 95%CI:0.47-0.85). Bisexual men were more likely than non-bisexual-identified men to report condom use during their last male anal sex (65.7% versus 59.2%; OR=1.32, 95%CI:1.02-1.72). Substance use emerged as a significant factor associated with condom use during the most recent anal intercourse for bisexual men (OR=0.50, 95%CI:0.29-0.88).

Conclusions: Bisexual men who use the Internet to seek sex with other men may exhibit distinct sexual risk behaviours (decreased rates of STI testing, less sexual health information sought online, increased condom use) compared to other MSM. In addition, further research is needed to understand the link between condom use and substance use within the context of preventing HIV risk among bisexual men who use the Internet to seek sex with other men.

TUPD0205 MASIVUKENI: A MULTIMEDIA ART INITIATION AND ADHERENCE INTERVENTION FOR RESOURCE-LIMITED SETTINGS

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Background: The need for ART initiation and adherence with staggering numbers of people, and a reliance on lay counselors for ART counseling remain challenging in South Africa (SA) and globally. Masivukeni, a theoretically-derived behavioral intervention, was developed to enhance the capabilities of lay counselors to deliver ART adherence counseling to patients initiating ART. Masivukeni is a structured, laptop-based multimedia intervention requiring minimal training and supervision.

Methods: We conducted a randomised controlled trial of Masivukeni at two townships clinics in Cape Town, SA. Masivukeni is consistent with standard of care counseling (SOC) guidelines (3-4 sessions prior to/ during ART initiation, follow-up sessions for defaults, and inclusion of treatment support partners (buddies)). Masivukeni uses videos, visually-relevant content, and interactive exercises that focus on key domains related to Social Action Theory (e.g., HIV/AIDS knowledge, motivation for health, mood, problem-solving skills, and social support). Patients eligible for ART initiation who provided consent were allocated 2:1 to Masivukeni or SOC. Patients were seen 12 months post-initiation, corresponding with routine clinic-based viral load testing. Qualitative interviews with counselors were also conducted.

Results: Participants included 456 HIV+ adults with 337 (74%) completing 12-month follow-up; most patients lost to follow-up transferred out of the clinic or did not initiate treatment. At enrollment 20% had TB; 73% were female; mean age was 33 years; 42% had some employment and 96% were impoverished (< R500/month). At follow-up, over 90% of all patients (across study arms) achieved viral suppression (VL< 400copies/ml), however, proportionally, nearly twice as many SOC participants did not initiate ART compared to those in the Masivukeni arm.. Among Masivukeni
participants, viral suppression was improved with increased buddy participation in counseling sessions. Counselors found the multimedia computerized intervention easy to use, enhancing their competence and confidence in their counseling role. They also reported greater patient learning and retention.

Conclusions: Masuivukani has promise as an adherence counseling tool, improving the numbers of patients who initiate treatment, and strengthening the work of and empowering counselors by standardizing and guiding their counseling interactions, providing visual aids solidifying patient understanding of HIV and its treatment, and contributing to rapid ART initiation and viral suppression.

TUPDD0206 “TÂNAMÃO” (INHAND) APP, A POCKET RISK CALCULATOR AND FREE PREVENTION SERVICE LOCATOR FOR CELL PHONES AND TABLETS

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Background: Recent data from epidemiological reports and surveys demonstrated increase of HIV infection, low use of condoms, and lack of awareness on the use of antiretroviral drugs among young population from Sao Paulo City. Furthermore, risk management and pre-exposure prophylaxis need to be publicized to encourage their adoption by this population.

Description: In order to address this problem, the STD/AIDS Program from the Sao Paulo City Department of Health commissioned a task force to create an app to provide accessible information in timely manner for young people. As a result, “TânMão” app (meaning “InHand” in English) was developed with the participation of representatives of key-populations. The user can input data and the app can calculate STI/HIV risk and provide guidance, and inform the nearest place to obtain free prevention supplies and healthcare.

Lessons learned: After successful test period with healthcare workers and key-population members, the app was released in social media, blogs and press. The app can be downloaded for Android and iOS. Noteworthy, Apple Store considers draws representing sexual interactions too explicit and blocks them.

Conclusions/Next steps: “TânMão” app was downloaded 3,660 times in six months after release, meaning that a broader promotion is required. A plan to increase app downloads through partnership with key people in online social networks and popular webpages is ongoing. A new version will have more friendly and enjoyable interface.

TUPDD0302 MEASURING GENDER NORMS AMONG VERY YOUNG ADOLESCENTS (AGES 10-14) AND YOUNG PEOPLE (AGES 15-24) IN UGANDA: TOOL VALIDITY AND ASSOCIATIONS WITH KEY HIV OUTCOMES

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Background: Gender norms are strongly associated with HIV-related factors, and they often form early in life. Very young adolescents (VYAs) ages 10-14 could benefit from gender transformative interventions, yet no tools are validated to measure gender norms among VYAs. The GEM Scale measures views towards gender norms, and has proven valuable in evaluating HIV programs for older adolescents/adults, in numerous settings. We assessed GEM Scale utility among Ugandan VYAs, and compared responses of VYA and older youth.

Methods: We conducted a two-stage cluster-sampled survey of 297 VYAs and 658 15-24-year-olds in rural and urban communities near Kampala. The survey included a 24-item GEM Scale. Using confirmatory factor analyses (CFA), we separately evaluated the scale among 10-14s and 15-24s. To maintain between-group comparability, we created a modified scale, omitting items with low CFA factor loadings (< 0.30). We dichotomized scores into low-, moderate-, and high-equitability groups, and assessed bivariate associations between gender-equitability and key outcomes.

Results: The GEM Scale proved an effective measure among both VYAs and older youth. For VYAs, CFA identified one latent construct with good fit [root-mean-square-error-of-approximation=0.04; Comparative-Fit-Index=0.93; Tucker-Lewis-Index=0.92], and consistency (α=0.74); 8 of the original items had low factor loadings. The 5 items with low factor loadings in both age groups were omitted to form the final 19-item scale. The scale results were comparable for males and females. Nearly 87% had low-to-moderate gender equity. VYAs had lower mean scores than 15-24s (33.5 vs. 37.1; p< 0.001). VYAs were 3 times as likely to agree that “a man should have the final word on decisions in his home” (p< 0.001), or “a woman who has sex before marriage does not deserve respect” (p< 0.001). Analyses showed that gender equitable norms were significantly (p< 0.05) associated with key outcomes, including HIV knowledge, HIV testing, and condom use.

Conclusions: The GEM Scale provides a valid measure of gender norms across a wide age range, including VYAs, and is associated with important HIV outcomes. Moreover, support for equitable gender norms was generally low, and lower among VYAs compared to their older counterparts. This gap may provide opportunities for gender transformative interventions for VYAs.

TUPDD0303 THE NEW NORMAL: SEXUAL IDENTITY, RELATIONSHIPS AND NORMS

TUPDD0301 DOES SEXUAL IDENTITY MATTER IN ACCESSING SERVICES? RISK PROFILE AND HEALTH-SEEKING BEHAVIOURS OF DIFFERENT SEXUAL IDENTITY TYPES OF YOUNG MEN WHO HAVE SEX WITH MEN IN MYANMAR

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Background: Men who have sex with men (MSM) are disproportionately affected by HIV compared to the general population in Myanmar (6.6% versus < 1%). While there is increasing information on risky behaviors of MSM in Myanmar, an in-depth understanding of how the risk profile and health-seeking behaviors differ by sexual self-identities is needed to tailor HIV/STI services. This analysis compares MSM with different sexual self-identities among young Myanmar MSM.

Methods: A behavioral cross-sectional survey was conducted in six townships in 2014 as a baseline for an evaluation of the Link Up project, a global consortium led by the International HIV/AIDS Alliance, to address sexual reproductive health needs of young key populations. Men (18-24 years) who had sex with a man in the previous six months were recruited using respondent-driven sampling to complete an interviewer-administered survey. Characteristics are compared using chi-squared test across different sexual identities: “tha-∩ge” (hidden MSM, insertive partner [hidden/i]), “apone” (hidden MSM, receptive partner [hidden/r]), and “apwint” (open MSM; typically receptive [open/r]).

Results: The study enrolled 623 MSM. Respondents self-identified as hidden/i (54%), hidden/r (16%), and open/r (29%). Open/r had the highest proportion reporting STI symptoms in the last 12 months (open/r: 37%; hidden/r: 23%; hidden/i: 24%; p< 0.01). All groups were equally likely to have sought STI treatment (57-65%). Open/r had the highest proportion ever having tested for HIV (open/r: 87%; hidden/r: 52%; hidden/i: 68%; p< 0.001). Self-reported HIV positivity was 15.7% (open/r), 1% (hidden/i), and 7% (hidden/r) (p=0.001). While the majority of open/r and hidden/r (90-95%) revealed their male-male sexual behavior, only 78% of hidden/i revealed such (p< 0.001). Open/r were the most likely to have accessed an MSM-friendly drop-in center (open/r: 78%; hidden/r: 69%; hidden/i: 49%; p< 0.001) or been reached by a peer educator (open/r: 67%; hidden/r: 56%; hidden/i: 41%).

Conclusions: Despite MSM being a vulnerable group overall, certain sexual identities of MSM may be even more vulnerable. The findings suggest the importance of tailoring MSM outreach and facility-based services to meet the nuanced needs of different sexual identities within MSM, particularly the hidden MSM who access services the least but are not without risk.
Background: Among other factors driving the HIV epidemic in Sub-Saharan Africa are social norms reinforcing restrictive gender roles and inequitable gender relationshios. These limit women’s ability to protect themselves from HIV, while simultaneously put social pressure on men to take on a range of sexual health risks. To understand the benefits of engaging men and boys for gender equality and HIV prevention, this study explored the impacts of Sonke Gender Justice’s ‘One Man Can’ (OMC) community mobilisation approach in a multi-level HIV intervention. The study assessed whether OMC community mobilisation activities targeting young men could promote gender-equitable norms that decrease women’s HIV vulnerability and men’s HIV risk behavior in South Africa.

Methods: The OMC community mobilisation intervention evaluation was a randomised controlled trial implemented in Agincourt, rural northeast, South Africa between 2012 and 2014. Young men (18-35 years) were the primary targets for the intervention, which included workshops and innovative outreach activities on gender equality and health. This analysis draws from qualitative data collected from intervention implementers and community members at the last time point during the intervention. Directed content analysis was employed as an analytic approach.

Results: Our findings indicate significant attitudinal and some behavioral changes towards gender equality and HIV risk amongst OMC intervention implementers and community members. At the interpersonal level, adoption of gender-equitable beliefs had positive effects of improved communication and a more balanced division of labor between intimate partners. At the community level, the results were mixed. OMC activities increased awareness and interest in reducing gender inequality and HIV risk. However, intervention implementers experienced some resistance from community leaders in providing training on aspects of gender equality, condom use, abortion rights, and homosexuality. HIV interventions that incorporate community leaders in providing training on aspects of gender equality, condom use, abortion rights, and homosexuality.

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Background: DhaKa City is home to thousands of migrants from Bangladesh’s rural areas who live in the streets as “pavement dwellers.” Bangladesh development programs often prioritize addressing girls’ substantial health needs, but young males also have vulnerabilities. This study assesses their practice of paying for sex, and its association with HIV-related risks.

Methods: As part of the global Link Up project, trained interviewers recruited 447 male pavement dwellers from seven DhaKa City pavement dwellers “hotspots.” At each hotspot, interviewers used random selection techniques (like spinning a bottle) to invite males ages 15 to 24 to participate in a survey that covered HIV-related risks and behaviors. We conducted descriptive analysis to examine sociodemographic characteristics, paying for sex (giving money, goods, or services in exchange for sex in past year), sexually transmitted infection (STI) symptoms (past six months), and high-risk sex (unprotected last sex with non-primary partner). Among those who had ever had sex (N=321), we conducted multivariate logistic regression analysis to assess whether transactional sex was associated with STI symptoms or high-risk sex, controlling for sociodemographic characteristics and early sexual debut.

Results: Median participant age was 18 years, 7% completed education above primary school, and 98% reported earning any income, a median of US$76/month. Eighty-nine percent of those who had had sex had sex (95.5% (CI 92.1-98.2)) reported transactional sex in the past 12m with a khowhani. There was significant overlap between both forms with 41.9% (CI 39.6-44.4) reporting both. Transactional sex with a main partner was significantly associated with being in a more controlling relationship (aOR=1.19, p<0.05), experiencing economic violence from an intimate partner in the past 12m (aOR=2.25, p<0.01), experiencing past year non-partner sexual violence (aOR=1.86, p<0.05) and women’s greater alcohol use (aOR=1.1, p=0.001). Transactional sex with a casual (khowhani) partner was associated with greater hunger (aOR=2.4, p<0.05), experiencing economic violence from an intimate partner in the past 12m (aOR=1.76, p<0.05), experiencing non-partner sexual violence in the past 12m (aOR=2.6, p<0.01) and using drugs in the past year (aOR=2.57, p<0.001).

Conclusions: Transactional sex with main partners and casual partners in this population is high. Risks associated with both forms of transactional sex emphasise the ways in which men’s controlling behaviours and women’s experiences of lack of economic autonomy shape women’s engagement in transactional sex. Reducing both forms of transactional sex requires interventions to empower women, including their economic autonomy.

Background: Transactional sex is a significant risk factor for HIV-acquisition amongst young women. Yet there may be significant variation in the forms of transactional sex with main partners and transactional sex with casual partners. Our study sought to describe the prevalence of each form of transactional sex and compare the risk factors for each amongst young women in urban informal settlements in South Africa.

Methods: We drew on cross-sectional data from 320 women aged 18 to 38 in informal settlements in Durban, South Africa who comprised the control arm of a cluster randomised RCT. Primary outcomes were transactional sex with a main partner in the past 12m and transactional sex with a khowhani (casual) partner in the past 12m, both assessed using 5 items. Other measures included socio-demographics, violence experienced and alcohol and drug use. We built Gaussian random effects regression models for each form of transactional sex.
Background: Quantitative studies traditionally reduce relationships to single-item variables and investigate sexual risk-taking. To broaden understanding of relationships and sexuality, we characterized types of intimate relationships among women living with HIV (WLWH) using multiple measures and examined differences in affection and associated psychosocial characteristics.

Methods: Using a critical feminist approach, we analyzed questionnaire data for 1,335 WLWH (≥16 years) in the multi-site, community-based Canadian HIV Women’s Sexual Relationships, yet they diverged on contentment with physical intimacy (44%-unhappy vs. 66%-happy), emotional closeness (24%-happy vs. 86%-happy), relationship power, exclusivity, and couple HIV-serostatus. We assessed construct validity by examining prevalence of affection (‘Someone to love and make you feel wanted’), and identified covariates using multinomial logistic regression.

Results: We delineated 5 latent classes: no relationship (47%), relationship without sex (9%), and three types of sexual relationships—short-term/casual (16%), long-term/unhappy (7%), and long-term/happy (22%). Women in the latter two classes had high probabilities of reporting an exclusive married/common-law/living-apart relationship of ≥3-years duration relative to women in short-term/casual relationships, yet they diverged on contentment with physical intimacy (44%-unhappy vs. 93%-happy), emotional closeness (24% vs. 86%), power (43% vs. 82%), and couple HIV-serodiscordance (59% vs. 71%). Affection was most prevalent in long-term/happy relationships (64%) and relationships without sex (48%), compared to long-term/unhappy (39%), short-term/casual (37%), and no relationship (23%) (p<0.0001). Relative to no relationship: women >50-years were less likely to be in any relationship; women reporting sex work [AOR:3.03(95%CI:1.64,5.61)] and violence [6.64(3.33,13.26)] were more likely to be in short-term/casual relationships; women without depression [2.90(2.04,4.12)] were more likely to be in long-term/happy relationships. No differences by gender, sexual orientation, or ethnicity were observed.

Conclusions: Nearly half of Canadian WLWH were not in relationships. Women’s relationships were heterogeneous, though HIV-serodiscordance was common and one-fifth reported long-term/happy and loving sexually active relationships. Sex, however, did not equate with affection, and relationships without sex had higher levels of love than some sexual relationships. A nuanced focus on promoting healthy relationships may offer a more comprehensive approach to supporting women’s sexual well-being, particularly among older WLWH and those with experiences of sex work, violence, and depression.


**TPUDE0104 EFFECTS OF CONTINUOUS QUALITY IMPROVEMENT AS A TOOL FOR INSPIRATION AMONGST HEALTH CARE WORKERS AND HIV+ MOTHERS ON RATES OF HIV AND MALNUTRITION AMONGST HIV-EXPOSED INFANTS IN RURAL RWANDA**

**Description:** MMC baseline assessment was conducted in 8 provinces: Mpumalanga (MP), Eastern Cape (EC); Gauteng (GP); Kwazulu Natal(KZN); Limpopo(LP); Northern Cape(NC) and North West(NW) to look at compliance of sites to WHO quality standards. Three days training was then conducted by URC staff to empower the providers so that they can provide good quality service. In total 279 healthcare workers were trained across the eight provinces. Post training 2 subsequent assessments were then conducted to assess improvement in the quality of service and compliance with the standards.

**Lessons learned:** Post CQI training results shows that provinces improved significantly on average from 76.4% baseline to 92.8% (reassessment). Individual provinces scored as follows: EC (81.4% to 96%), GP (78.2% to 97.3%), KZN (80.4% to 94.2%), LP (81.4% to 98.5%), MP (63.4% to 90.1%), NC (69.2% to 94.9%), NW (78.0% to 80.6%).

**Conclusions/Next steps:** CQI has empowered those providing the MMC service with skills, knowledge, and understanding of the program to enable them to be capable, high quality MMC service. Results after training showed that provinces improved significantly in their performance as far as providing quality service is concerned.

**TPUDE0105 IMPROVING MALE PARTNER TESTING IN PMTCT: A QUALITY IMPROVEMENT INITIATIVE IN KINANGO HOSPITAL, KWALE COUNTY, KENYA**

**Description:** In Kinango Hospital, Kwale County, Kenya, a Continuous Quality Improvement (CQI) project was initiated to improve male partner testing for HIV. The project ensured community awareness of the initiative through mentions during morning health talks and individual counseling sessions. Male partners were offered rapid HIV testing as couples according to the national guidelines. Data was captured on routine MOH collection tools.

**Lessons learned:** Pregnant women attending first ANC visit and who had their male partners tested for HIV increased from 4% (2013) to 17% (2014) and 34% (2015). Male partners testing increased from 4% (2013) to 12% (2014) and 21% (2015). The project ensured community awareness of the initiative through mentions during morning health talks and individual counseling sessions. Male partners were offered rapid HIV testing as couples according to the national guidelines. Data was captured on routine MOH collection tools.

**Conclusions/Next steps:** Male partner testing for HIV can be successfully integrated with ANC visits by inviting partners to attend ANC visits. This approach can improve uptake of HIV testing and counseling among male partners, help with disclosure, and improve MTCT rates. Using existing quality improvement teams, change ideas like this one can be successfully replicated.
Conclusions/Next steps: Successful Linkages to HIV care and treatment services may be achieved through adoption of multiple strategies that are feasible and affordable such as use of patient escort, improved HCW skills and use of linkage registers.
Tuesday 19 July

POSTER EXHIBITION

MECHANISMS OF ACTIVATION / INFLAMMATION AND IMPACT ON PATHOGENESIS

TUPEA002

CD4+ T CELL ACTIVATION: A NEW LINK BETWEEN INTIMATE PARTNER VIOLENCE AND HIV RISK?

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Background: Behavioral pathways linking intimate partner violence (IPV) experience to HIV are well-established, but the biologic pathways remain unexplored. We hypothesized that IPV-induced stress negatively affects HIV systemic immune defenses and aimed to evaluate whether IPV was associated with immune profiles established as harboring increased HIV risk: CD4 activation and decreased regulatory T cell (Treg) frequency.

Methods: From Feb-Nov 2014, demographics, past-year and lifetime IPV, child abuse, substance abuse, and post-traumatic stress disorder (PTSD) data were obtained from HIV-negative high-risk women. Blood, urine, and genital ulcer (if present) samples were collected for AM cortisol, immune assays, and STI testing. Frequencies of activated CD4 T-cells (HLA-DR+/CD38+), Tregs (CD4+CD25+FoxP3+) and phenotyping of CD4 (using CD27, CD45RA) were assessed by flow cytometry. Nonparametric tests evaluated the association between IPV, covariates (child abuse and demographics), and immune outcomes. Multivariate regression explored confounding of the IPV-CD4 relationship and moderation by cortisol, cocaine use, and PTSD.

Results: 75 HIV-negative high-risk women age 18-50 were enrolled. Lifetime IPV was associated with increased CD4 activation (p=0.331, p=0.04), a shift in CD4 phenotype from naive (p=0.339, p=0.003) to effector memory (p=0.367, p=0.001), and an increase in activated Tregs (HLA-DR+/CD38+), p=0.260, p=0.024, but not total Treg frequency. Past-year IPV was also associated with increased CD4 activation (p=0.257, p=0.026) and had similar trends. After controlling for sexual IPV, the association between lifetime physical and psychological abuse and CD4 activation remained significant (β=-0.579, p=0.004 and β=0.362, p=0.033, respectively). After controlling for race (the only covariate linked to increased activation), the lifetime IPV-CD4 activation link remained significant (β=0.313, p=0.012). While PTSD was associated with increased CD4 activation (p=0.247, p=0.034), neither PTSD, cocaine use, nor cortisol were moderators of the IPV-CD4 activation pathway.

Conclusions: Our data is the first to suggest a potential immune link between IPV and HIV and may help explain individual-level differences in HIV susceptibility and response to biologic HIV prevention strategies. The association of psychological and physical IPV with CD4 activation independent of sexual abuse (i.e. genital tract trauma) further supports the existence of a stress-induced immune pathway.

TUPEA001

RANTES, CD169/SIGLEC-1 AND CD38-HLADR ARE INDEPENDENTLY ASSOCIATED WITH CXCR4-TROPIC IN TREATMENT NAIVE HIV-1 SUBTYPE C INFECTED INDIVIDUALS

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Background: Switch from CCR5 (R5) to CXCR4 (X4) co-receptor tropism of HIV-1 subtype B occurs in ≥60% of untreated patients and is associated with rapid progression to AIDS. The etiology of this switch is largely unknown, however CD4 + T-cell activation (CD38-HLADR) has been shown to correlate with X4 tropism in HIV-1 subtype B. We investigated the prevalence of X4-tropism in a cross-sectional cohort of antiretroviral therapy (ART)-naïve South African HIV-1 subtype C infected individuals and hypothesized that X4-tropism was correlated with CD4 + T-cell activation, monocyte activation and plasma co-receptor ligand concentration.

Methods: One hundred HIV-1 subtype C infected ART-naïve patients, 18-45 years old were enrolled at a rural clinical site in South Africa. Plasma and peripheral blood mononuclear cells were isolated. Genotypic prediction of HIV-1 co-receptor usage old were enrolled at a rural clinical site in South Africa. Plasma and peripheral blood mononuclear cells were isolated. Genotypic prediction of HIV-1 co-receptor usage with the geno2pheno algorithm, using a False Positive Rate (FPR) of 3.5%. Cellular markers for T-cell activation and monocyte activation were measured using FACS and soluble leukocyte activation markers and co-receptor ligand concentrations were determined by Luminox xMAP technology.

Results: All viral isolates were sequenced successfully and 22% were predicted to be X4-tropic. In a univariate analysis X4-tropism was negatively associated with CD4 counts and positively associated with immune activation (i.e. CD38-HLADR) in CD4 cells, CD169/Siglec-1 on monocytes and plasma RANTES levels (p=0.05). When corrected for CD4 count, age and sex; RANTES, CD169/Siglec-1 and CD38-HLADR expression were independently predictive of X4-tropism in a multivariate analysis, but CD4 count itself was not identified as an independent predictor.

Conclusions: In this cohort of HIV-1 subtype C ART-naïve patients 22% harbor the X4 predicted virus. We detected higher levels of CD4 immune activation, plasma RANTES levels and CD169/Siglec-1 and CD38-HLADR expression on monocytes, each independently associated with X4 tropism. CD169/Siglec-1 captures HIV-1 through recognition of the viral envelope glycan shield and transfers the virus through synaptic cell-cell contacts to uninfected cells. Our novel observations may impact the way we understand the transfer of X4-tropic cell-free virus to permissive lymphocytes. These data have important ramifications in the way we understand HIV-1 pathogenesis and tropism in HIV-1 subtype C infection.
We also investigated the mechanism of changes in S1P-R1 and its transcriptional regulator, Kruppel-Like factor 2 (KLF2).

**Results:** We found that S1P-R1 is expressed at low-moderate levels on human HSC. In infected HSC mice CFSE-labeled CD34+ progenitors developed into mature thymocytes in the human thymus/liver implant and a subset expressed S1P-R1, indicating that entry into the thymus and development are functional during early HIV infection. Surprisingly, we found that S1P-R1 and KLF2 were significantly upregulated in mature thymocytes post-HIV infection. Intriguingly, S1P-R1 was also upregulated by HIV within the CD3+CD69+ population, which normally does not express S1P-R1. S1P-R1 signaling as measured by pAkt was not impaired in infected thymocytes, which is in contrast to published data that S1P-R1 response in HIV infection may be impaired in other cell types.

**Conclusions:** S1P-R1 upregulation post-HIV-1 infection may offer insight into T cell reconstitution mechanisms during infection and provide potential alternate avenues for immunotherapy.

**TUPEA005 IMMUNOMETABOLIC ANALYSIS IDENTIFIES KEY ROLE OF HYPOXIA INDUCTIBLE FACTOR-1 ALPHA (HIF-1α) IN HIV-INDUCED CD4+ T CELL DEPLETION**

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**Background:** Studies have described a protective role of CD8+ memory stem T cells (Tscm) in HIV disease progression and have shown a beneficial effect of long-term cART in restoring their frequency and function. Nonetheless, data on longitudinal modifications of this subset are lacking. We investigated the kinetics of CD4+ and CD8+ Tscm prior to and following cART aiming to understand their correlation with peripheral T-cell homeostasis/activation and gut function/microbial translocation, recognized markers of clinical outcome and response to treatment.

**Methods:** HIV-infected individuals were studied prior to [T0] and following 12 months of cART (T12). T-cell activation (HLA-DR+) and gut function (EndoAb, LPS) and microbial translocation (CD11c+) were measured in plasma. Wilcoxon test and Spearman’s correlation were used for statistics.

**Results:** 20 subjects were enrolled. In the course of cART, the decrease in activated CD4+ and CD8+ T cells paralleled the contraction of exhausted naive and CD8+ effector memory subsets. A reduction in gut-homing CD4+ and a rise in Th17 was also observed, yet no significant variation was seen in terms of microbial translocation and gut function. The CD4+ Tscm pool also decreased under treatment, while the CD8+ Tscm did not.

**Conclusions:** Subsets of Y6 T-cells are differentially distributed in AN as compared to LAN patients. Increased activation of Y6 T cells at baseline predict a worse immune reconstitution after suppressive ART.
CORRELATES AND BIOMARKERS OF CLINICAL PROGRESSION OF HIV INFECTION

TUPEA007
RESIDUAL INFLAMMATION AND ENDO THELIAL ACTIVATION IN HIV-1 VERTICALLY INFECTED CHILDREN WITH FULLY SUPPRESSED VIRAL REPLICATION ON ANTIRETROVIRAL THERAPY

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Background: Chronic inflammation, which may predominate to cardiovascular disease (CVD), persists in HIV-1 infected adults despite sustained viral suppression (SVS). There are limited data on chronic inflammation and endothelial activation (EA) in vertically infected children. This study examines markers of inflammation and EA in virally suppressed, vertically HIV infected children enrolled in the Canadian EPIC4 cohort.

Methods: A cross-sectional analysis of pro-inflammatory cytokines (PIC) and measures of EA was performed in HIV-1 infected children with a viral load (VL) ≤ 40 copies/mL while on combination antiretroviral therapy (cART). Selected PIC and biomarkers of EA were measured using commercially available cytometric bead array assays (Beckton-Dickinson) and ELISA (R&D Systems).

Results: 43 vertically HIV-infected children were included with median age 13 years (range 3-19); 23/43 (54%) were girls. Twenty-two subjects had initiated cART in the first year of life with subsequent SVS. The remaining 21 subjects had either initiated cART after one year of age (n=6), or had at least one regimen failure before achieving SVS (n=15). PIC levels (IL-12p70, TNF, IL-10, IL-6, IL-1β, IL-8) were low (< 20 pg/mL) in all but one patient. Median (inter-quartile range) levels of the biomarkers of EA markers angiopoietin-1 (Ang-1), angiopoietin-2 (Ang-2), soluble intercellular adhesion molecule-1 (sICAM-1), soluble vascular endothelial growth factor receptor-1 (sVEGFR-1), and soluble endoglin (sEng) were 16 (12-34), 0.47 (0.31-3.5), 84 (67-97), 0.53 (0.25-2.7), and 17.3 (14.4-24.0) ng/mL, respectively. Biomarkers of EA were correlated: Ang-2 with sVEGFR-1, Ang-2 with sEng, sVEGFR-1 with sEng (ρ>0.5, p<0.01 for all comparisons). Using principal component analysis to partition the cohort into quartiles based on EA biomarkers, patients in the highest quartile with respect to EA also had higher levels of PIC: TNF (p=0.005), IL-12p70 (p=0.001), and IL-10 (p=0.008).

Conclusions: Despite SVS with cART, persistent systemic EA is detected in a proportion of vertically HIV-infected children and is associated with low-level chronic inflammation. Further studies are needed to determine the significance of these findings with respect to future CVD risk and beyond.

CENTRAL NERVOUS SYSTEM

TUPEA009
THE IMPACT OF CONFOUN ding FACTORS ON DETERMINATION OF BIOMARKERS FOR NEUROCognitive DISORDERS IN HIV-INFECTED SUBJECTS

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Background: Despite the introduction of HAART, mild forms of HIV-Associated Neuropsychological Disorders (HAND) remain highly prevalent in people living with HIV. Many potential biomarkers have been studied, but none of them proved to be useful in clinical practice so far. The aim of this study was to looking for neurodegenerative and inflammatory biomarkers in CSF of HIV-infected patients to determine a HAND biomarkers profile. We also analyzed the impact of medication, age, time of infection and other clinical and epidemiological factors on the measurement of biomarkers studied.

Methods: 70 HIV+ and 7 HIV- subjects were submitted to a neuropsychological assessment and classified using the Frascati criteria in: ANI, MND, HAD, HIV+ and HIV- controls groups (HIVc). Levels of neurodegenerative markers Tau, p-Tau, Aβ40, Aβ42 and inflammatory marker sCD14 were measured in CSF samples of the subjects. Age, nadir CD4+, CD4+ and CD8+ levels of infection, viral load and efavirenz use were also evaluated regarding to the biomarker profile.

Results: Statistically different levels of Aβ40 between the HIV+c and HIV-c and between HIV+c and HAND groups were founded. p-Tau levels were different between HIV+c and MND, but not within HAND groups. sCD14 levels were significantly different between HIV-c and HIV+c and also between HIV+c and HAND groups. Among patients with HAND, it was possible to distinguish HAD from the milder forms. In comparison with clinical and demographic data, sCD14 showed a linear correlation with age and time of infection. Also, the average age of the groups with more severe disorders was higher.

Conclusions: sCD14 was very useful to discriminate HAND from no HAND groups, as well as in the differential diagnostic between HAD and milder forms of HAND. Nevertheless, the linear correlation of sCD14 with age and time of infection make it not valuable in clinical practice alone since older individuals are more likely to develop HAND. On the other hand, Aβ40 showed no correlation with clinical/demographic data and also presented statistically difference between individuals with and without HAND. Despite limitations, results so far suggest that Aβ40 and sCD14 together can be helpful on the diagnosis of HAND.
**TUPEA10**

**ASSOCIATION BETWEEN DUAL TIM-3 AND PD-1 EXPRESSING CD4 T CELLS AND NEUROINFLAMMATION IN CHRONIC STABLE HIV DISEASE**

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**Background:** HIV-associated neurocognitive disorders (HAND) is hypothesized to be a result of neuro-inflammation in the CNS; however the role of T-Cells subsets remains ill-defined.

**Methods:** We utilized multi-parametric flow-cytometry to investigate markers of T-Cell activation (CD38-HLA-DR+), senescence (CD57+), and exhaustion (TIM-3, PD-1 and TIGIT) on CD4 T-cells and CD8 T-cells. We also evaluated surface markers of immune activation, TIGIT or senescent markers on CD4 T-cells or with any of these surface markers on monocytes.

**Results:** By 12% of the participants. Results revealed a significant relationship between higher TIM-3+ CD4 T-cell frequencies and executive function (rho=0.371, p=0.034) and a trend for working memory (rho=0.292, p=0.099). Additionally, double positive PD-1+TIM-3+ CD4 T-cells correlated significantly with executive function (rho=-0.476, p=0.005), working memory (rho=-0.407, p=0.019), and global NP2 (rho=-0.318, p=0.093). Higher percentages of PD-1+TIM-3+ CD4 T-cells were associated with lower immune function as measured by CD4 T-cell counts (rho=0.545, p=0.001). PD-1+TIM-3+ CD4 T-cells correlated with both senescent (CD4+ CD57+CD28-; rho=0.462, p=0.008) and CD8+ T-cells activation (CD8+HLA-DR+; rho=0.578, p=0.002). Moreover, higher PD-1+TIM-3+ CD8 T-cell frequencies were associated with higher counts of CD16+ monocyte subpopulations (rho=-0.534, p=0.005). Even with the exclusion of individuals with detectable viremia, all these findings remained significant. No associations with NP2 were observed for TIGIT or senescent markers on CD8 T-cells or with any of these surface markers on CD4 T-cells.

**Conclusions:** Dual expression of immune exhaustion markers, PD-1 and TIM-3, on CD4 T-cells is associated with lower neurocognitive performance. CD4 T-cell exhaustion and increases in CD16+ monocytes may be interrelated processes involved in HAND. Novel immunotherapy targeting PD-1 and TIM-3 may be considered as treatment modalities for HAND.

**TUPEA11**

**POST-TREATMENT CONTROL OR TREATED CONTROLLERS? THE IMPACT OF ART ON TIME TO VIRAEMIA IN RECENT SEROCOVERTS**

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**Background:** In recent seroconvertors who commence antiretroviral therapy (ART) in primary HIV infection (PHI) stopping treatment is not followed by viral rebound, but rather a period of aviraemia or ‘viral remission’. However transient viremic control may also occur in untreated PHI before the virus plasma viral load (VL) becomes detectable. Characterising these untreated patients is critical to understanding the additional impact of ART on ‘time to rebound’ in treatment interruption (TI) studies. We studied patients randomised to initiate immediate or deferred ART at the time of PHI to compare factors impacting time to viremia.

**Methods:** Participants with PHI in the SPARTAC RCT were randomised to 0, 12 or 48 weeks of ART. We defined ‘control’ as plasma VL<400 copies/ml, for at least 16 weeks after randomisation if untreated, or from TI if ART was initiated. For treated and untreated controllers we compared total HIV-1 DNA, HLA Class I alleles, HIV-1-specific CD8 T-cell responses, and markers of T cell activation (CD25, CD38, CD69, HLA-DR) and exhaustion (PD-1, TIM-3, Lag-3).

**Results:** 36 of 129 (9.7%) trial participants fulfilled the definition of control; 10/128 (7.8%) were untreated, 9/114 (7.9%) received <12 weeks ART (mean 11.9 weeks) and 16/119 (13.4%) >12 weeks of ART (mean 47.7 weeks). At baseline, controllers, both treated and untreated, had lower HIV-1 DNA levels (p<0.001), lower VLS (p<0.01) and higher CD4 counts (p<0.01). When comparing untreated and treated controllers, those who had received >12 weeks ART had significantly higher pre-therapy VL than untreated controllers (3.8 vs 2.3 log copies/ml; p<0.003). However, there were no differences with respect to demographics, viral subtype, HLA allele frequency, baseline HIV-1-specific T cell immunity (median [range]: 0.2 [0.1], 0.4 [0.1] GAG D/P responses for 12 and 0 weeks ART, respectively), CD4 count, HIV-1 DNA, immune activation or activation marker expression. Importantly, the duration of viral control did not vary between treatment groups (p=0.218).

**Conclusions:** These data show that some untreated patients during PHI experience prolonged viral control, and suggest that the impact of early ART on post-treatment control may be overestimated if the dynamics of viral rebound in untreated individuals are not considered.

**TUPEA12**

**IDENTIFICATION OF DIFFERENT HIV-CONTROLLER PHENOTYPES: LOOKING FOR THE RIGHT MODEL OF FUNCTIONAL CURE**

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**Background:** HIV controllers are a rare group of patients that maintain HIV viremia at low levels without antiretroviral treatment. However, some HIV controllers differ in terms of clinical outcomes, CD4 T-cell counts and immune activation. Our aim was to find unbiased and premature markers that enable to discern HIV-controller phenotypes regarding clinical progress (CD4+ T-cell drop).

**Methods:** We have analysed the prevalence of IFNL4 rs469415590 polymorphism and HLA-B haplotypes among 100 HIV controllers (<2000 HIV-RNA copies/ml) in absence of antiretroviral treatment for at least 1 year) Long Term Non-Progressors (CD4+ T cells counts>500 for more than 7 years since infection) (LTNP-C) and 40 HIV controllers non-LTNP Controllers (non-LTNP-C) coming from the Spanish AIDS Research Network HIV-Controllers Cohort (ECRIS). We validated these results in 914 white HIV-controllers (52.8% LTNP-C) included in a genome wide association study. From the International HIV-controllers Study the IFNL4 polymorphism included in the GWAS was rs12980275 which is in strong linkage disequilibrium with rs469415590 (r2=0.901). In a subgroup of patients HIV-specific T-cell response and soluble cytokines array were analysed.

**Results:** After adjusting for sex, age at HIV-diagnosis, favorable IFNL4 genotype, HLA-B27, HLA-B57, HLA-B35 and HLA-B08 haplotypes, the factors independently associated with LTNP-C in both cohorts were favorable IFNL4 genotype (as a risk factor, OR=0.401 (0.171-0.942) p=0.036 and OR=0.643 (0.439-0.944) p=0.024, respectively) and HLA-B57 (as a protective factor, OR=0.462 (0.290-0.749) p=0.044 and OR=1.959 (1.243-2.931) p=0.003, respectively). In the ECRIS cohort it was also associated with sex, while in the International HIV-controller Study there was an association with age at HIV diagnosis. LTNP-C showed lower plasma IP-10, IL-8 and TRAIL levels (p=0.019, 0.053 and 0.039, respectively) and higher IL1RA, IFNy and IL13 (p=0.02, 0.016 and 0.05, respectively). Moreover, LTNP-C exhibited higher IL2, CD57 and IFNy+CD8+CD57 HIV-specific T-cells (p=0.002 and p=0.041, respectively) than non-LTNP-C.

**Conclusions:** We have unveiled genetic markers able to segregate HIV controllers into LTNP-C and non-LTNP-C. This finding makes possible to identify those controllers at risk of a CD4 T cell drop and opens the door to potential therapeutic interventions. These results encourage re-evaluating LTNP-C as a right model of HIV functional cure.
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HOST GENETICS OF HIV SUSCEPTIBILITY AND DISEASE PROGRESSION

TUPEA015
THE INFLUENCE OF HLA-TYPES ON DISEASE PROGRESSION AMONG HIV-2 INFECTED PATIENTS IN GUINEA-BISSAU

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Background: HIV-2 is endemic to West Africa and is characterized by lower transmissibility due to lower viral load and HIV-2 infected persons usually have a slower progression to AIDS. The mechanisms behind the slower disease progression are unknown, but host genetics play an important part for progression during HIV-1 infection. Thus, several studies have found a relationship between HLA profile and time to onset of AIDS in HIV-1 infected individuals while research in the relationship between HLA profile and HIV-2 disease progression is scarce.

The aim of this study was to identify specific HLA-Types that influence disease progression of HIV-2 infection.

Methods: High resolution HLA Class I and II typing of the HLA-A, HLA-B, HLA-C, HLA DRB1, HLA-DPB1 and HLA-DQB1 loci was performed on DNA from 54 antiretroviral treatment naive HIV-2 infected patients from the Bissau HIV Cohort, Guinea-Bissau. HIV typing was confirmed using INNO-UA HIV-1/2 Score. The effect of HLA type on HIV-2 RNA and CD4 cell count was assessed by multivariable linear regression analysis adjusted for sex and age.

Results: The included patients were a mix of seven of the most populous ethnic groups in Bissau, among these mainly Fula and Balanta. Twelve men (22%) and 42 women (78%) were included, mean age was 45 years (range 22-70) and median CD4 cell count was 361 cells/µL (IQR 167-633).

The HLA alleles DRB1*04:02 and DRB1*04:05 were associated with higher CD4 cell count at HIV diagnosis (mean difference, carriers - non-carriers: 210 cells/µL, 95%CI [0.014, 1.482]), suggesting that this allele may be positively correlated with HIV-2 disease progression.

Conclusions: In preliminary analysis, HLA-DRB1*02:01 and HLA-DRB1*04:05 positively protect against HIV-2 disease progression, while HLA-DRB1*11:01 may cause a faster disease progression of HIV-2. An additional 450 samples from HIV-2 infected individuals in Bissau have been collected and will be HLA typed.
TUPEA16
MANNING BIRDING LECTIN GENETIC POLYMORPHISM: ABSENCE OF ASSOCIATION WITH HIV-1 VERTICAL TRANSMISSION IN A PMTCT CROSS-SECTIONAL SURVEY IN ZIMBABWE
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Background: Mannon Binding Lectin (MBL) is a normal liver-derived protein, which is a key component of the innate immune system. In the absence of serum/plasma measurements, MBL2 genotypes can be used as proxy. MBL deficiency leads to defective opsonisation activities of the innate immune system and increased susceptibility to several infections including HIV-1. The main objective of this study was to determine prevalence of MBL deficiency, as estimated by MBL2 haplotypes among Zimbabwean mothers and their children aged 9-18 months old as well as its association with risk of HIV-1 infection and vertical transmission from their HIV positive mothers.

Methods: We assessed MBL2 polymorphisms in Zimbabwean HIV positive mothers and their children enrolled in a national PMTCT survey carried out in 2012. MBL deficiency was defined as presence of A/O and O/O genotypes in the mothers and their children. We extracted DNA from two dried blood spots for 622 mothers and infant pains using the Gene Extract and Amp kit reagents. MBL2 exon 1 genotypes and promoter region alleles -221(X/Y) and -550(H/L) SNP were detected by pyrosequencing. Differences in distribution frequency between HIV infected and uninfected children of the MBL2 genotypes, promoter region variants and MBL2 haplotypes, were determined by Chi square test or Fisher’s exact tests.

Results: The median age (IQR) of the mothers was 30 (26 - 34) years and the children mean age (IQR) was 12 (11-15) months old at the time of enrolment. All 622 mothers were HIV-1 infected, 574 babies were HIV negative and 48 were HIV-1 positive babies. MBL2 normal structural allele A and variants B (codon 5A>G), C (codon 57 A>G) and promoter region SNPs -550(H/L) and -221(X/Y) were detected. Prevalence of MBL deficiency was 34% among the mothers and 32% among the children. We found no association between maternal MBL2 deficiency and HIV-1 transmission to their children. We found no difference in the distribution of HIV-1 infected and uninfected children between the MBL2 genotypes of the mothers and those of the children.

Conclusions: MBL deficiency was not associated with HIV-1 infection among the children nor was it associated with HIV-1 vertical transmission in this study population.

TUPEA17
MUCOSAL TRANSMISSION

TUPEA18
HIV-1 CONSTRUCTS DO NOT TRIGGER MACROPHAGE INFLAMMATORY PROTEIN - 3 ALPHA SECRETION IN HUMAN GENITAL EPITHELIAL CELL MODELS
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Background: Macrophage inflammatory protein - 3 alpha (MIP-3α), a chemotraictant for plasmacytoid dendritic cells, was shown in a landmark study to accumulate in the endocervix in the first three days post exposure to SIV-containing inoculum and prior to recruitment of SIV RNA+ CD4+ T cells in macaques. We hypothesized that MIP-3a secretion is upregulated in the endocervical sub compartment of human mucosa following HIV exposure, when the viral envelope proteins interact with the apical epithelial surface. We assessed patterns of its secretion, changes in which could potentially alter the risk of HIV infection in women.

Methods: We studied patterns of constitutive secretion of MIP-3a in various female genital tract (FGT) models including cell lines; primary epithelial cells (ECs), cervicovaginal fluid (CVF) and endocervical explant tissue (EET). We then stimulated HECA-1 cells on permeable supports and EET with various envelope and non envelope HIV-1 preparations including soluble gp140 trimeric protein, gp120 viruses-like particles (VLPs), R5 tropic whole virus, HIV-1 strain BaL, and NLE-3 deleted Env. We also induced with Toll-like receptor ligands (TLRs) 1-6. We analysed MIP-3a levels in supernatants by a sandwich quantitative ELISA and LumineX immunoasays.

Results: We showed that MIP-3a is secreted constitutively at high levels throughout the studied FGT sites with the levels being highest in the endocervical tissue models at 20 ng/ml (5x22) and 715pg/ml (7.7) in the EET and EREC, respectively. However, levels were not further elevated after stimulation with either various HIV-1 preparations or TLR ligands in the EET. Contrary to EET, HECA-1 cells responded differentially to TLR ligands while similarly to EET they did not respond to various viral preparations - using various viral concentrations and stimulating from both poles of the membrane did not have any further impact on triggering MIP-3a levels.

Conclusions: Given that levels of expression of MIP-3a by human FGT epithelial models (unlike in macaques) are not influenced by HIV-1 preparations, its role in modulating initial events of HIV-1 infection remains to be defined. It is hence important to consider the extent of the mediatory role of MIP-3a in the association between HIV exposure and the outcome of infection.

TUPEA19
DYNAMICS OF HIV AND ITS TARGET CELLS IN THE FEMALE REPRODUCTIVE TRACT DURING ACUTE INFECTION AND AFTER TREATMENT
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Background: The landmark HIV prevention trials network study 052 demonstrated that HIV transmission in discordant couples can be dramatically reduced by treating the infected individual with antiretroviral therapy (ART). However, the cellular and virological events in the female reproductive tract (FRT) during ART that results in such a decrease in transmission rates were not studied and remain unknown.
VERTICAL TRANSMISSION

TUPEA020

EARLY REVERSE TRANSCRIPTS, AN EARLY INDICATOR OF CART EFFICACY IN NEONATAL HIV

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Background: Little is known about the early dynamics of HIV cDNA species in recently exposed, and infected infants while receiving ARV prophylaxis.

Methods: In a sub set of high-risk, non-breast fed infants enrolled in a perinatal trial comparing different antiretroviral regimens for post-exposure prophylaxis to prevent HIV mother-to-child transmission, we serially analyzed kinetics of partially and completely reverse transcribed HIV cDNA in the first 24-weeks of life (< 48hr; 2, 4, 8, 12, and 24 weeks of age) in 10 infants in whom timing of infection was known (in-utero or intrapartum based on presence of HIV DNA/RNA by PCR at birth). HIV-1 cDNA species were quantified using digital droplet PCR in genomic DNA isolated from peripheral blood mononuclear cells.

Results: We studied 10 HIV infected infants (3 in-utero, 7 intrapartum). Overall, the results show that proviral HIV cDNA levels generally correlate with HIV RNA levels in response to ARV (range 0.5-20 cp per million cells). Preliminary data of HIV kinetics suggests that early detection of incomplete reverse transcripts prior to detection of HIV cDNA or RNA in some intrapartum neonatal HIV infections and their appearance in response to ARV provides new insights into early infection. For example, in Figure 1, this intrapartum infected infant tested negative for HIV DNA but had detectable incomplete reverse transcripts. While ZDV treatment partially blocked reverse transcription, it was not sufficient as reverse transcripts reappeared leading to productive infection.

Conclusions: Immediate CART as prophylaxis markedly decreases the quantity of proviral reservoirs and alters early viral kinetics in infected neonatal cells. However, the rapid rescue of reverse transcription, an event not common in adult naïve T cells, suggests HIV replication in neonates is more efficient. Consequently, detection of early reverse transcripts in addition to proviral DNA provides new insights into the dynamics of very early infection.

ACUTE AND EARLY INFECTION

TUPEA021

ACUTE HIV-1 INFECTION IN MEN WHO HAVE SEX WITH MEN ATTENDING THE CLINIC FOR VOLUNTARY COUNSELING AND TESTING SERVICES IN BANGKOK, THAILAND

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Background: Detection of acute HIV-1 infection (AHI) is critical for early HIV treatment and prevention. We identified AHI in men who have sex with men (MSM), and in transgender women (TGW), attending the Silom Community Clinic (SCC) for voluntary counseling and testing (VCT) services in Bangkok, Thailand and assessed associated risk factors.

Methods: The SCC offers voluntary HIV-1 counseling and rapid serologic testing for MSM and TGW. We used an HIV-1 rapid test (Determine) to screen for HIV. Positive results were confirmed by two additional rapid tests (DoubleCheck, SD Bioline). Persons with negative rapid tests were screened for AHI using a pooled HIV-1 nucleic acid amplification test (NAAT, AptaScan). AHI in those with a NAAT-positive result was confirmed by viral load (Roche) or fourth-generation enzyme immunoassay (EIA, Abbott). AHI was defined as being anti-HIV-1 antibody negative with the presence of HIV-1 RNA or p24 antigen. We describe behavioral and laboratory factors for persons with AHI.

Results: From June 2009 to November 2015, 9,167 persons made 21,773 visits to VCT services. Overall, 8,747/9,167 (95%) assented to HIV testing; the prevalence of HIV-1 RNA or p24 antigen. We describe behavioral and laboratory factors for persons with AHI.

Results: From June 2009 to November 2015, 9,167 persons made 21,773 visits to VCT services. Overall, 8,747/9,167 (95%) assented to HIV testing; the prevalence of HIV-1 RNA or p24 antigen. We describe behavioral and laboratory factors for persons with AHI.

Persons with AHI did not report any AHI symptoms. Persons with AHI had a median age of 27 years (IQR 23-32), and 62% were aged 17-29 years. Characteristics of persons with AHI included recent unprotected anal sex (n=63, 93%), history of a sexually transmitted disease (n=28, 41%), hepatitis immunity (hepatitis B surface antibody, n=27, 40%, hepatitis A, n=16, 24%), and any AHI symptoms (n=19, 28%). However, 72% of persons with AHI did not report any AHI symptoms.

Conclusions: We detected AHI in 1.1% of MSM and TGW who initially tested HIV negative at SCC VCT. Incorporating screening for HIV-1 NAAT and p24 in persons reporting risk exposure or factors linked with AHI leads to detection of acute infection as resources allow, and increases the possibility of early treatment and prevention of HIV transmission.
TUPEA022

COMPARISON OF HIV EPITOPES AVAILABLEBILITY BETWEEN ACUTE AND CHRONIC INFECTION

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Background: Recent studies indicate that there is selection bias for transmission of viral polymorphisms associated with higher viral fitness. Furthermore, after transmission and before a specific immune response is mounted in the recipient, the virus undergoes a number of reversion which allow an increase in their replicative capacity. These aspects, and others, affect the viral population characteristic of early acute infection.

Methods: Using high throughput 8 PCR from plasma samples of 5 ARV-naive patients with early acute infection (≤ 60 days, 29 days average) and 5 ARV-naive patients with a year of infection (7 ampicillin per patient) Sanger sequencing and NGS SMRT technology (Pacific Biosciences) were implemented to sequence the amplicons. HLA-I typing was performed by SSO-PCR method. The chromatograms were analyzed with Sequencer 4.10. Epitope prediction was performed with NetMHC CBS prediction server for the 19 HLA-A and -B8 allele most prevalent in our population with peptide lengths from 8 to 14 Aa. Cytotoxic response prediction was performed by using the IEDB Analysis Resource.

Results: After implementing epitope prediction analysis, we identified a total number of 110 viral epitopes present in two or more acute or chronic patients. 63.6% (n=70) of them were present only in acute infection (prevalent acute epitopes) while 36.4% (n=40) were present only in chronic infection (prevalent chronic epitopes). Within p24, the difference was even more dramatic with 85.7% (18/21) being acute epitopes. This is consistent with progressive viral adaptation to immune response in time and further supported by the fact that cytotoxic response prediction shows that acute epitopes are more likely to generate immune response than chronic epitopes. Interestingly, only 15.2% of acute epitopes match the population-level consensus sequence of the virus. Deep NGS indicates that there is not significant variability in our viral population.

Conclusions: Our results indicate that certain non-consensus viral residues might be transmitted more frequently than consensus-residues when located in immunologically relevant positions (epitopes). This observation might be relevant to the rational design of effective vaccines.

TUPEA023

IDENTIFICATION OF A CYTOKINE EXPRESSION PATTERN SPECIFIC FOR THE FIRST MONTH OF HIV INFECTION

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Background: Acute HIV infection (AHI) is the initial phase of infection where HIV is actively replicating but seroconversion has not yet occurred. AHI is characterized in most of the cases by a transient non-specific febrile illness. Massive inflammatory response and intestinal damage are also developed at this stage. The main objective of this study was to identify patterns of immune biomarkers which differentiate the early Fiebig stages of AHI during HIV subtype C infection.

Methods: A fever based screening was used to identify AHI in subjects presenting at the Manhiça District Hospital (MDH) in Southern Mozambique. AHI was defined as HIV serology rapid test positive or indeterminate and HIV RNA positive. Plasma levels of inflammation, immune response and intestinal damage biomarkers were determined by luminex or ELISA techniques. Western blots were performed to complete Fiebig staging. Identification of patterns of biomarkers by Fiebig stage was assessed by multivariate analysis using a Random Forest model.

Results: Of 3111 eligible individuals with a negative or indeterminate HIV rapid test result, 85 (2.7%) had positive HIV RNA viral load and were enrolled as AHI of which n=45, 8, 12 and 20 were classified as Fiebig I-III, IV, V and VI stages respectively. Median age of the AHI group was 24 years (IQR 10.0), and 58.8% of the subjects were females. Group comparison showed Fiebig-dependent variation of expression of cytokines (Figure 1). Random Forest analysis revealed that CD163, BAFF, MIG and MCP-1 distinguished between Fiebig I-IV and Fiebig V-VI with a sensitivity of 75% and a specificity of 87%.

Conclusions: Identification of plasma biomarker expression pattern specific for early HIV is a useful tool for understanding early HIV pathogenesis and may be used to identify those individuals whose intestinal damage and chronic immune activation could be potentially prevented by therapeutic interventions at this stage.

TUPEA025

PRECLINICAL PROPHYLACTIC DRUG DEVELOPMENT

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Background: Approximately 1.5 million HIV-positive women become pregnant annually. Without treatment, up to 45% will transmit HIV to their infants, primarily through breastfeeding. These numbers indicate the fact that HIV acquisition is a major health concern for women and children globally. They also highlight the urgent need for novel approaches to prevent HIV acquisition that are safe, effective and convenient to use by women and children in places where they are most needed.

Methods: The efficacy of oral EFdA PrEP to prevent vaginal and oral HIV infection in vivo was evaluated by exposing EFdA-treated and untreated BLT humanized mice vaginally (HIV-1JR-CSF, JR-CSF, HIV-1CH4419 and HIV-1RHPA) or orally (HIV-1JR-CSF, JR-CSF, HIV-1CH4419 and HIV-1RHPA) to three consecutive high dose HIV challenges. EFdA was administered via oral gavage (10 mg/kg) once daily for eight days and mice were challenged with HIV 3-4 h after the second, fourth and sixth EFdA doses. A power analysis was performed to determine experimental group sizes needed to achieve >90% power.

Results: Using highly relevant transmitted-founder (T/F) viruses, we evaluated the ability of a novel and potent reverse transcriptase inhibitor, EFdA, to prevent vaginal and oral HIV transmission using a pre-clinical model of HIV infection. Our results show strong HIV inhibitory activity in serum, cervicovaginal secretions and saliva obtained from animals after a single oral dose of EFdA demonstrating efficient drug penetrance into highly relevant mucosal sites. Importantly, a single daily oral dose of EFdA resulted in efficient prevention of vaginal and oral HIV transmission after multiple high-dose exposures to T/F viruses, offering in vivo pre-clinical data supporting the use of EFdA as a pre-exposure prophylaxis (PrEP) agent to prevent HIV infection in both women and infants.

Conclusions: Significant gender inequalities limit the ability of women to access and exercise HIV prevention options resulting in earlier acquisition of infection, higher transmission rates and increased mother-to-child transmission of HIV. Our results demonstrate excellent efficacy in preventing both vaginal and oral HIV transmission together with EFdA’s relatively low toxicity and high potency against drug-resistant HIV strains support its use in both women and infants, the two of the most vulnerable populations at risk for acquiring HIV.

[Figure 1. Expression of selected biomarkers varies by Fiebig stage. Of a total of 49 biomarkers assayed, n=8 were selected for significant differences between Fiebig groups by Kruskall-Wallis range comparison (Bonferroni adjusted p-value <0.01). Comparison of individual differences in expression level by Fiebig group was performed by Dunn’s comparison test adjusted by Bonferroni for multiple comparisons as shown above. Significance is indicated as *** if p<0.001, ** if p<0.01 and * if p<0.05. Box as IQR, middle line as median, whiskers as Tukey values (1.5 IQR)]
MYCOBACTERIA AND TUBERCULOSIS

TUPEA026
EVALUATION OF THE LOOP-MEDIATED ISOTHERMAL AMPLIFICATION (LAMP) ASSAY FOR THE DETECTION OF M. TUBERCULOSIS (TB) IN SYMPTOMATIC TUBERCULOSIS PATIENTS ATTENDING A PRIMARY HEALTHCARE CLINIC IN DURBAN

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Background: Tuberculosis remains a major global health problem. Delays in diagnosis and treatment initiation result in prolonged transmission and increased infectiousness of the patients.

KwaZulu-Natal is the epicenter of the HIV epidemic with approximately 70% of people co-infected with HIV and TB. Undiagnosed TB is a major contributor to the high mortality in HIV infected patients. We evaluated and compared the diagnostic accuracy of the TB LAMP assay, smear microscopy and GeneXpert to the gold standard of TB culture in TB suspects.

Methods: Two sputum specimens (one for routine GeneXpert test and the second for TB LAMP, smear microscopy and TB culture) were collected after obtaining informed consent from eligible TB suspects attending a Primary Health Care Clinic.

DNA was extracted from raw sputum and amplified according to the manufactures instructions (Eiken Chemical Company, Japan) using the Loopamp® Extraction and Detection Kits. The remaining sputum were examined using fluorescent microscopy (Auramine O staining) and cultured into the BACTEC MGT 960 system. Culture positive samples were confirmed with Ziehl-Neelsen staining and a Line-probe assay.

Results: A total of 695 samples were collected for the TB LAMP test. The TB LAMP test has a slightly lower sensitivity (72.6% vs 76.0% p = 0.4487) and significantly higher specificity (96.8% vs 92.9%, p = 0.0242) than the GeneXpert assay when compared to all Culture Positive samples, respectively. In Smear-positive-Culture-positive samples, the sensitivity of the TB LAMP versus culture compared to GeneXpert was 95.9% and 97.6%, respectively. Within Smear-negative-Culture-positive samples, the sensitivity of the TB LAMP was lower (55.9%) than that of GeneXpert (66.1% p = 0.2654). The lower sensitivity could be due to the shorter assay time to diagnosis (1 vs 2 hours) and less sample input volume (60µl vs 1000µl).

Conclusions: The TB LAMP test has ease of operability and the findings of this study suggest similar sensitivity to the GeneXpert. This test has the potential to be implemented as a point-of-care test in the Primary Health Care setting and can contribute to reduction in primary defaulters, reduction of treatment waiting times, reduction of TB prevalence and improve health outcomes in HIV positive patients.

OTHER PATHOGENS (INCLUDING HPV, SYPHILIS AND CRYPTOCOCCUS)

TUPEA027
HIGH-RISK HUMAN PAPILLOMAVIRUS TYPES IN HIV-INFECTED AND UNINFECTED YOUNG WOMEN IN A CROSS-SECTIONAL STUDY IN KWAZULU NATAL, SOUTH AFRICA: IMPLICATIONS FOR VACCINATION

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Background: High-risk human papillomavirus (hr-HPV) infections and low-grade squamous intraepithelial lesions occur frequently in young women. The available vaccines cater for up to nine hr-HPV genotypes, which may not necessarily be the most predominant types in every region worldwide. The objective of this study was to describe the hr-HPV genotypes present among HIV uninfected and infected young women in rural areas of the KwaZulu-Natal province of South Africa.

Methods: Cervico-vaginal lavages were obtained from sexually active young women recruited from high schools in KwaZulu-Natal (n=1223). HPV detection and genotyping were done in these samples using the Amplicor HR-HPV test (Roche). HPV genotypes were identified by sequencing the consensus regions L1 gene (16-35bp) of the HPV genome.

Results: Of the 1223 cervico-vaginal lavages, 301 (25%) were positive for hr-HPV. The HPV prevalence was higher in HIV infected (32.2%, 95 CI, 0.27-0.38) than in HIV uninfected women (22.5%, 95% CI, 0.21-0.26), p<0.001. Similarly, multiple infections were more common in HIV infected (59.3%) than in HIV uninfected women (53.5%), p<NS. The nine most predominant genotypes in descending order were HPV types 16 (n=99, 22.1%), type 51 (n=58, 12.9%), type 18 (n=56, 12.5%), type 35 (n=50, 11.1%), type 33 (n=47, 10.5%), type 56 (n=42, 9.4%), type 45 (n=34, 7.6%), type 52 (n=32, 7.1%), type 59 (n=31, 6.9%). Specifically, HPV 25, 51, 56 and 59 (40.5%) were amongst the most prevalent in the schools of KwaZulu-Natal yet not covered by the nine-valent vaccine.

Conclusions: Four of the most predominant high-risk HPV types in this region are not covered by the new nine-valent HPV vaccine. HPV infections in young women often clear spontaneously and the lesions regress however, this study was done in young women of an HIV high-endemic area and further research must be done to determine the clinical significance.

ANIMAL MODELS OF TRANSMISSION, DISEASE RESISTANCE AND PROGRESSION

TUPEA028
TRANSCRIPTOME ANALYSIS OF DIFFERENTIALLY EXPRESSSED ISG SUBSETS IN ACUTE AND CHRONIC PHASE SUDEMS INFECT IN SUSTAINING PERISTANT ISG EXPRESSION IN PATHOGENIC SIV INFECTION IN CYMOLOIDIC MACAQUES

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Background: Interferons play a major role in controlling viral infections. They are key elements in innate immunity and are needed for efficient adaptive immunity. Nevertheless, they are associated with inflammation/immune suppression/chronic-immune-activation. Persistent up-regulation of IFN-regulated-genes (ISGs) is a molecular signature of chronic-immune-activation and progression in SIV-infected non-human-primates.

IFNs/IFN-receptors interactions induce ISGs by targeting specific sequences upstream promoters (GAS, ISRE) through signal transduction (phosphorylation of latent transcription factors belonging to STAT family mediated by Janus kinases). STAT dimers directly activate ISGs containing GAS-sequences. The association of STATs with interferon regulatory factor (IRF9) activates genes by interacting with ISRE-sequences.

Our aim was to better understand the respective involvement of type I and type II IFNs in SIV induction in both acute and chronic infection, and respective functional enrichments of genes regulated by GAS or ISRE or both (GAS+ISRE) in specific biological functions.

Methods: Six macaques were exposed to SIVmac251 intravenously and were subjected longitudinally to Agilent Rh DNA array, in different tissues (PBMCs, lymph-nodes, rectum) focusing on acute and chronic infection. In addition, virus loads and IFN expression were monitored. We analyzed differential expression of IFNs and 1,638 ISGs that were splitted into three distinct groups, GAS-, ISRE- and GAS/ISRE-regulated-ISGs.

Results: Increased IFNb-expression was detected in lymphoid tissues during acute infection but was barely detectable during the chronic stage. In contrast, IFNγ production was detected during both phases. Among 297 differentially up-regulated ISGs, 72 displayed ISRE-, 113 GAS- and 112 both ISRE/GAS-sequence(s) whereas 5,000bp upstream promoter. The induction of ISGs was higher in acute than in chronic phase. ISRE/GAS-ISGs were more induced than ISRE and GAS genes. Some were induced in acute or chronic or both phases (MX1,ISG15,OS1,IRF9). ISRE+GAS-ISGs were over-represented in inflammation and anti-viral canonical functions than were GAS-ISGs or ISRE-ISGs.

Conclusions: These results suggest that, in acute phase, both type I and type II IFNs sustain ISG expression. In the chronic phase, the absence of detectable IFN I (alpha) induction combined with persistent IFNg and IRF9 over-expression suggests that up-regulation of ISGs may be mainly supported by type II IFN which is produced by activated NK and T cells.
TUPEA029  
PNS INFLAMMATION DURING ACUTE SIV  
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Background: The greater life expectancy among the highly educated compared to the less educated is well documented in many countries. We examined life expectancy by education in the Swiss HIV Cohort 1992 to 2013, and compared it with recent life expectancy by education in the general Swiss population.  
Methods: We estimated remaining life expectancy at age 20 years using parametric survival models based on the Gompertz distribution. For each HIV-positive individual we drew a random sample of up to 100 people from the 2000 census, matched for age (year of birth), sex, and educational level (higher education, vocational training, compulsory education only). We then estimated life expectancy in the Swiss National Cohort, which links census to mortality records.  
Results: The greater life expectancy among the highly educated compared to the less educated is well documented in many countries. We examined life expectancy by education in the Swiss HIV Cohort 1992 to 2013, and compared it with recent life expectancy by education in the general Swiss population. We estimated remaining life expectancy at age 20 years using parametric survival models based on the Gompertz distribution. For each HIV-positive individual we drew a random sample of up to 100 people from the 2000 census, matched for age (year of birth), sex, and educational level (higher education, vocational training, compulsory education only). We then estimated life expectancy in the Swiss National Cohort, which links census to mortality records.  
Analysis: These findings suggest that immune activation and oxidative stress responses in the dorsal root ganglia precede and contribute to early sensory nerve dysfunction. A comprehensive understanding of the early pathogenic mechanisms leading to HIV-induced peripheral nervous system damage may reveal novel neuroprotective approaches for HIV patients.  

NOVEL ANIMAL/VIRUS MODELS FOR VACCINE, CURE RESEARCH, AND INHIBITOR DEVELOPMENT  
TUPEA030  
DISTRIBUTION AND LOCALIZATION OF FLUORESCENTLY TAGGED PASSIVELY TRANSFERRED ANTIBODIES: DEFINING ANTIBODY DYNAMICS AND LOCALIZATION IN VIVO  
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Background: In the world of host-HIV interactions, non-neutralizing and broadly neutralizing antibodies have been illustrated to provide protective responses against lentiviral infections. Antibody passive transfer studies in non-human primates have demonstrated protection against HIV infection; however, the mechanism of this protection at mucosal sites is unknown. Through various approaches, we have determined antibody half-life, along with where these antibodies localize and how they enter into mucosal tissues.  
Methods: To define antibody dynamics and localization in vivo, rhesus macaques were intravenously administered fluorescently tagged non-specific Gamunex-C, HIV-specific VRC01, VRC01-LS (kindly provided by John Mascola) or a combination of two of aforementioned antibodies. Additional macaques were also injected with fluorescently tagged Gamunex-C and human serum albumin. Following injection, serum, vaginal weck, sequential vaginal biopsies, and whole necropsied vaginal tissues were collected at time points ranging from 24 hours to 8 weeks. For each animal, antibody levels in serum and weck were analyzed using fluorometric spectroscopy. Tissue fluorescent levels were measured with deconvolution microscopy.  
Results: Antibodies were detectable in sera, weck, and tissue as early as 24 hours and up to ~4 weeks. In all samples, antibodies reached a steady state between 1-2 weeks, however Gamunex-C persisted longer in sera than VRC01 or VRC01-LS. Antibodies, both non-specific and HIV-specific, were found to first appear in the vaginal lamina propria and move into the superficial layers through epithelial cell differentiation. Likewise, human serum albumin moved through the vaginal epithelium in a similar fashion.  
Conclusions: Here, our data illustrate how antibodies can passively enter mucosal tissues after intravenous administration and reveal endogenous pathways of antibody distribution in mucosal squamous epithelia. Within the vaginal epithelium, we observe an apparent cell-based mechanism of antibody delivery where subsets of basal epithelial cells capture circulating passively transferred antibodies, migrate towards the surface, eventually delivering these antibodies to the lumen to interact with mucosal fluids. Additionally, we imagine the intra-epithelial movement of human serum albumin and antibody being synchronized, suggesting we are observing the kinetics and mechanism of transudation. These data prove essential for understanding and developing novel antibody-based prevention of HIV infection.
Background: In many sub-Saharan Africa countries, HIV programs are organized around pediatric or adult care. This has important implications for retention of adolescents in HIV care programs especially as they transition from pediatric to adult care. Retention is important for positive clinical outcomes (e.g., viral load suppression and survival). The extent to which HIV-infected adolescents have been retained in care is not well understood. We examined retention and the factors associated with non-retention among HIV-positive adolescents in Uganda’s The AIDS Support Organization (TASO) clinics. TASO provides facility- and community-based antiretroviral treatment (ART) care services.

Methods: Using a retrospective cohort analysis, we examined clinical data of HIV-positive adolescents aged 10-19 years who initiated ART at 6 TASO clinics between January 2006 and December 2011. We defined retention as the percentage of patients known to be on treatment 12, 24, 36 and 48 months after initiation of ART. Descriptive statistics and Cox proportional hazards regression models were used to determine levels of retention and factors associated with non-retention at 24 months following ART initiation.

Results: A total of 617 adolescents started ART between 2006 and 2011, with an overall retention rate following ART initiation of 70% over 48 months, of which 63% were females, 55% were aged 10-14 years, 75% had primary education, and 25% were sexually active. Retention was 90% at 12 months, 83% at 24 months, 76% at 36 months, and 70% at 48 months. Retention varied by duration of treatment, with higher retention observed for patients on longer duration of treatment. Non-retention was significantly associated with clinic-based (vs. community-based) ART delivery (AHR=2.58, 95%CI: 1.26-5.29 at 12 months); CD4 >100/mm³ at ART initiation (AHR=1.38, 95%CI: 1.01-1.90 at 12 months); and older adolescent age (15-19 years) (AHR=1.88, 95%CI: 1.01-3.48 at 12 months).

Conclusions: We observed that community-based ART delivery and early initiation on ART improved retention in treatment. There is thus a need for early diagnosis of HIV infection and community-based approaches to reach and retain HIV+ adolescents on treatment, and identification of specific groups that are at high risk of dropping out for targeted care and support.

TUPE048
RISK FACTORS FOR UNSTRUCTURED TREATMENT INTERRUPTIONS AND ASSOCIATION WITH SURVIVAL IN ART PROGRAMMES IN LOW-MIDDLE INCOME COUNTRIES

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Background: Treatment interruptions (TIs) to antiretroviral therapy (ART) are associated with increased risk of mortality and other adverse clinical outcomes. This study reports frequency and risk factors for unstructured TIs (uTIs) and association with survival in Médecins Sans Frontières ART programmes.

Methods: Programmatic data from 33 ART sites in 11 countries between 2003 and 2013 were analysed. Included variables were: gender, age, marital status, CD4 cell count and WHO stage at ART initiation. uTI was defined as a ≥ 90 day break from calculated from the day the previous prescription ran out until date of the next prescription. Factors predicting uTI were assessed with a conditional risk-set Cox regression model. The extent to which HIV-infected adolescents have been retained in care is not well understood. We examined retention and the factors associated with non-retention among HIV-positive adolescents in Uganda’s The AIDS Support Organization (TASO) clinics. TASO provides facility- and community-based antiretroviral treatment (ART) care services.

Results: A total of 617 adolescents started ART between 2006 and 2011, with an overall retention rate following ART initiation of 70% over 48 months, of which 63% were females, 55% were aged 10-14 years, 75% had primary education, and 25% were sexually active. Retention was 90% at 12 months, 83% at 24 months, 76% at 36 months, and 70% at 48 months. Retention varied by duration of treatment, with higher retention observed for patients on longer duration of treatment. Non-retention was significantly associated with clinic-based (vs. community-based) ART delivery (AHR=2.58, 95%CI: 1.26-5.29 at 12 months); CD4 >100/mm³ at ART initiation (AHR=1.38, 95%CI: 1.01-1.90 at 12 months); and older adolescent age (15-19 years) (AHR=1.88, 95%CI: 1.01-3.48 at 12 months).

Conclusions: We observed that community-based ART delivery and early initiation on ART improved retention in treatment. There is thus a need for early diagnosis of HIV infection and community-based approaches to reach and retain HIV+ adolescents on treatment, and identification of specific groups that are at high risk of dropping out for targeted care and support.

TUPE047
IMPACT OF RELIGION ON HIV/AIDS PATIENT RETENTION IN CARE AND ART ADHERENCE IN UGANDA: A CASE STUDY OF THE INFECTIOUS DISEASES INSTITUTE, IN KAMPALA, UGANDA

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Background: While implementation of multifaceted programs has led to substantial decline to HIV/AIDS rates, societal especially religiosity, though neglected; play an important role. Religiosity rarely attracts attention from funders and service providers, and its impact on HIV/AIDS programs is poorly understood. We aim to assess the impact of religious beliefs on the pattern of HIV service seeking behavior, at the Infectious Diseases Institute (IDI) clinic in Kampala, Uganda.

Methods: A cross-sectional study of 406 adult HIV patients and staff was conducted at IDI, in 2012. We used quantitative and qualitative methods of data collection. Specifically, patients were asked about their religious beliefs, divine healing and adherence to clinic appointments and antiretroviral drugs. We conducted 360 individual interviews that were stratified by religious affiliation, gender and age, and 4 focus group discussions (FGDs) for patients, and 10 key informant interviews (KIs) of selected IDI clinic staff. We used SPSS version 14 to analyse the quantitative data and thematic analysis to analyze the qualitative data.

Results: From 360 individual interviews, majority were Catholics 305(29.2%), then Anglicans 104 (28.9%), Pentecostals 90 (25.0%) while Muslims 48(13.3%) and Adventists 13(3.6%). Pentecostals 64(37.9%) were religiosity active and engaged in the practice of divine healing, followed by Catholics 45(26.6%), Anglicans 41(24.2%), Muslims 15 (8.9%) and Adventists 4(2.4%). Patients who engaged in divine healing reported lower rates of adherence to antiretroviral therapy (ART) and missed more clinic appointments in the prior three months (P-value < 0.001). Five themes emerged regarding religiosity including: Divine healing, Level of religiosity, benefits and risks of religiosity, and how to address religious beliefs.

Conclusions: There is an urgent need for HIV programs to recognize that belief in divine healing can affect ART adherence. In Uganda and similar settings is need to develop sensitization messages addressing religious beliefs, actively engaging religious leaders to support treatment programs. Further research is needed to elucidate the impact of religious beliefs on treatment outcomes in HIV programs.
TUPEB049
HIGH LEVELS OF ONE-YEAR RETENTION IN CARE IN A UNIVERSAL TEST AND TREAT SETTING

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Background: Retention in care is critical to the success of universal test and treat strategies. We sought to characterize predictors and barriers to retention within a streamlined model of care in a population-based universal test and treat trial.

Methods: Retention in care at one year (attending a follow-up visit or evidence of HIV care at another site within 90 days of scheduled 12-month visit) was measured among HIV-infected adults who linked to care following a multi-disease community health campaign in the SEARCH trial in rural Uganda and Kenya (NCT01864603). Patients received a streamlined care package consisting of appointment reminders and quarterly visits with patient-centered care providing reduced waiting and overall visit duration. Predictors of not being retained were estimated using Cox proportional hazards modeling with death as a competing risk.

Results: Among 5,429 HIV-infected adults (age=15 years) who linked to care, 1,801 (33.2%) were male and 5,293 (97.5%) were stable residents residing in the community for >6 months in the last year. Overall 5,048 (93.0%) were in care one year after their first post-health campaign visit with 88.2% at their original clinic and 4.8% at an alternative site. One-year retention was 95.3% in patients in continuous care. High levels of one-year retention in care at another site (92.4% at an alternative site) was measured among HIV-infected adults who linked to care following a multi-disease community health campaign in the SEARCH trial in rural Uganda and Kenya (NCT01864603). Patients received a streamlined care package consisting of appointment reminders and quarterly visits with patient-centered care providing reduced waiting and overall visit duration. Predictors of not being retained were estimated using Cox proportional hazards modeling with death as a competing risk.

Conclusions: Retention on option B+ decreases overtime and varies with facilities with small sites with lone staff recording lower retention rates. Though same day initiation is necessary for the success of option B+, adequate preparation is necessary for treatment success. HIV status denial, stigma and discrimination and religious beliefs were top reasons for stopping treatment. Improved staffing and community interventions to track defaulters and reduce stigma and religious beliefs would improve retention.

TUPEB050
HIGH RATES OF LOSS TO FOLLOW-UP AMONG WOMEN ON OPTION B+ ATTENDING CARE IN URBAN KAMPALA, UGANDA

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Background: The successful rollout of option B+, life long treatment for HIV+ pregnant women in sub-Saharan Africa is currently challenged with poor retention in care. Early drop out of care may compromise the health of mothers. We sought to quantify the amount of loss to follow-up among women receiving option B+. Data was collected from 5 Kampala City Council HIV clinics supported by the Infectious Diseases Institute, Uganda. We followed up HIV+ pregnant women on ART under the Option B+ strategy since its roll out in 2012. Lost to follow-up was defined as having not seen in care within three months at time database closure.

Results: A total of 23319 patients were registered in care, and 3138(13.5%) were women on option B+ strategy. The median age of the women was 25(IQR: 22,30) years. High rates of loss to follow-up among women on Option B+ attending care in urban district were measured. Lost to follow-up rates were >6% at 12-month and long term retention in care which tends to vary with settings and overtime. We assess retention overtime and reasons for stopping lifelong ART in HIV-positive pregnant and breastfeeding women initiating option B+ in Kampala.

Methods: We examined retention at 6 and 12 months after ART initiation between October 2013 and December 2014 in five health facilities in the Kumba Health District. During follow-up, women missing clinic appointments were traced by peer educators through phone calls and home visits. Tracking outcomes and reasons for stopping were documented.

Results: Overall, 268 women started option B+ during their current pregnancy or in breastfeeding, and 86(32.1%) appeared to have discontinued treatment during follow-up. Of these, 19(22.1%) were self-transferred to another ART clinic. For the remaining 67 women, 21(31.3%) had died, 29(43.3%) were not traceable and 36(54.7%) had stopped treatment. The 247 women remaining in the analysis (excluding deaths and self-transferred), 13 discontinued treatment at or before 6months and cumulatively 21.1% at 12 months. Starting treatment in a small site with lone staff and younger age (<25 years) were associated with treatment discontinuation. The main reasons for stopping treatment were: denial of HIV status, stigma and discrimination in 19 cases (52.8%), religious reasons in 9 cases (25.0%), loss of transport for clinic visits in 4 cases (11.1%), and 4 women (11.1%) declined providing reasons. These alarmingly high rates of LTFU are critical in the success of the Option B+ strategy and denote. There is need for immediate strategies to ensure retention in care.

Conclusions: Retention on option B+ decreases overtime and varies with facilities with small sites with lone staff recording lower retention rates. Though same day initiation is necessary for the success of option B+, adequate preparation is necessary for treatment success. HIV status denial, stigma and discrimination and religious beliefs were top reasons for stopping treatment. Improved staffing and community interventions to track defaulters and reduce stigma and religious beliefs would improve retention.

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Conclusion: Patient decisions to disengage from care are influenced by factors emanating from both the clinic and community domains. To effectively support re-engagement in care of PLHIV, strategies must be developed to address: i) clinic service processes that impact waiting times and privacy, ii) the financial and logistical burdens which static clinic-based care models create for patients, and iii) the continued social impact of community attitudes on PLHIV. Specifically, processes to engage communities in developing localised strategies to counter myths and stigma relating to patient treatment are required.

Background: With growing numbers HIV-infected individuals needing to access care and treatment, and strategies to strengthen long-term engagement in care are critical. Nested in a 4-province study of HIV care and treatment outcomes, we examined how Zambian patients’ and health-care workers’ (HCW’s) perceptions of care and care practices are influencing this engagement.

Methods: In-depth interviews were conducted with a stratified random sample of 75 adults across five patient categories: engaged in-care, pregnant in-care, dis-engaged, facility transfer, friend/family of deceased patient. Sixteen focus group discussions were also convened with lay and professional HCW serving the same catchment areas. Audio transcripts were translated, transcribed and uploaded to Nvivo QSR™ for inductive analysis.

Results: Patients and HCW had strong shared understanding of what constitutes a ‘good patient’. For HCW’s ‘good patients’ were characterised by their respect for staff and adherence to ‘the rules’ of visit and medication schedules stipulated by clinical protocols. HIV patients similarly described ‘good patients’ as those who ‘obey HCW’ and ‘follow the rules’. Despite this, HIV-patients and HCW reported logistical (e.g. time/distance to clinic) and interpersonal factors (e.g. patient-HCW clashes) that undermined patients’ capacity to meet such requirements. This included frequent clashes between protocol-driven visit-schedules and HIV-patients’ familial, lifestyle or work commitments. Inability or unwillingness to adhere to schedules often resulted in HCW characterising patients as ‘troublesome’ or ‘rude’ which, combined with other points of conflict, led to breakdowns in trust and communication.

Conclusions: Despite widespread recognition of HIV-patients’ varied socio-cultural and economic backgrounds, HCW in Zambia remain remarkably rigid in their characterisation of ‘good’ or ‘bad’ HIV-patients based in part on adherence to protocol-driven rules. In an era of rapidly increasing patient numbers, static facility-based care combined with inflexible application of protocols that are associated with a normative or ‘ideal’ patient, are likely undermining rather than encouraging long-term engagement in care.

Background: As Zambia scales-up HIV care and treatment, more focus is being placed on understanding and supporting retention in HIV-care. Despite strong efforts, substantial numbers of people leave or disengage from HIV-care and systematic evidence to explain the phenomenon remains sparse. Nested within a larger study of HIV care and treatment outcomes, this qualitative research sought to explore such patient disengagement.

Methods: In-depth interviews were conducted with a random sample of 17 dis-engaged (no presentation at clinic for >90 days since last scheduled visit or 180 days since any clinic visit) male and female adults from four provinces. Sixteen focus group discussions were additionally convened with lay and professional health workers. Audio transcripts were translated, transcribed and uploaded to Nvivo QSR™ for thematic analysis incorporating largely inductive coding.

Results: At the clinic level, discussed factors influencing patient disengagement included perceived negative attitudes of health workers, intensified clinic visits for patients ‘defaulters’, and frustration with clinic processes - specifically loss of test results/medical records and long waiting times. Relative lack of privacy due to clinic structures and procedures also contributed, as PLHIV feared ‘involuntary disclosure’. Within the community level, participants narrated livelihood constraints and economic stress of accessing treatment including time and transport costs. Participants also described negative ‘myths’ about anti-retroviral drugs. A profound fear of stigma associated with HIV and and life-long treatment persists and continues to impact treatment decisions.

Conclusion: Patient decisions to disengage from care are influenced by factors emanating from both the clinic and community domains. To effectively support re-engagement in care of PLHIV, strategies must be developed to address: i) clinic service processes that impact waiting times and privacy, ii) the financial and logistical burden which static clinic-based care models create for patients, and iii) the continued social impact of community attitudes on PLHIV. Specifically, processes to engage communities in developing localised strategies to counter myths and stigma relating to patient treatment are required.

TUPEB025 CLINIC AND COMMUNITY BASED FACTORS INFLUENCING PATIENT DIS-ENGAGEMENT FROM HIV CARE AND TREATMENT IN ZAMBIA

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Conclusion: Patient decisions to disengage from care are influenced by factors emanating from both the clinic and community domains. To effectively support re-engagement in care of PLHIV, strategies must be developed to address: i) clinic service processes that impact waiting times and privacy, ii) the financial and logistical burden which static clinic-based care models create for patients, and iii) the continued social impact of community attitudes on PLHIV. Specifically, processes to engage communities in developing localised strategies to counter myths and stigma relating to patient treatment are required.

TUPEB055 RETENTION IN CARE AMONG HIV-INFECTED PREGNANT MOTHERS ON LIFELONG ANTIRETROVIRAL THERAPY ART IN UGANDA

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Background: In an endeavour to improve maternal health and survival, as well as reduce vertical transmission of HIV in Uganda, lifelong ART is provided to all HIV-infected pregnant mothers (Option B+) irrespective of CD4 count or clinical stage. However, retention in care among HIV-infected pregnant mothers is unknown but suspected to be low. We evaluated retention in care and explored reasons why mothers drop out of care.

Methods: We performed a retrospective cohort analysis of data abstracted from health facility records of 2,169 pregnant mothers who had enrolled on ART between January and March 2013 in a representative sample of 145 health facilities in all 24 districts in the central region of Uganda. Using survival analysis, we calculated retention in care at 6, 12 and 18 months post-ART. To explore reasons why mothers drop out of care, we performed 21 in-depth interviews (IDIs) with mothers who...
drewn) out, 21 IDUs with mothers who were retained in care and 39 focus group discussions (FGDs) with peer mothers and village health team (VHT) members. **Results:** The overall median follow-up time after enrolment on Option B+ was 20.2 months (IQR 4.2-22.5). The proportion of mothers retained in care at 6, 12 and 18 months post-ART was 74.2%, 66.7% and 62.0%, respectively. Retention in care at each time point varied considerably by health facility level and was highest among mothers seen at hospitals and lowest among those seen at lower level facilities (p<0.05). Mothers who dropped out of care expressed concerns about fear of disclosure of HIV status and resulting stigma; insufficient partner support; difficulty with transportation to clinics; by poor provider attitudes and stock outs of ARV drugs. In addition, VHT members and peer mothers complained about inadequate support to track mothers in the community. **Conclusions:** Retention in HIV care in this population is moderate. Poor provider attitudes, high levels of stigma and discrimination in the community, stock-outs of ARV drugs and barriers to transportation to clinics are some of the factors that could undermine the program and need to be addressed.

**TUPE056 DESCRIBING POINT OF ENTRY INTO CARE AND LOST TO PROGRAM IN A COHORT OF HIV-POSITIVE PREGNANT WOMEN IN A LARGE URBAN CENTRE IN UGANDA**

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**Background:** Published data from sub-Saharan Africa suggest high rates of lost to follow-up (LTU) among women on prevention of mother-to-child (PMTCT) programs. At the Infectious Diseases Institute (IDI), Kampala, Uganda, an HIV centre with over 8,000 HIV-positive individuals enrolled, we started an integrated PMTCT-HIV integrated clinic where pregnant women receive both PMTCT and HIV care including the recommended WHO regimen (currently TDF+FTC+EFV).

**Methods:** We included women who became pregnant between 1/Jan/2012 and 1/ Aug/2014. We used proportions to describe the point of entry into the integrated clinic (1st, 2nd, 3rd trimester, delivery, post-partum) and the magnitude of LTP. We used logistic regression methods to determine the characteristics associated with LTP including age, WHO stage, parity, CD4 count, ART status (ART-naive vs on ART), and time on ART. LTU was defined as being out of care for at least 3 months. **Results:** 856 women were included in the analysis; median age was 31 years (IQR: 26-35); median CD4 count was 433 cells/µl (IQR: 301-638), 236 (27.6%) were ART naive, 329 (39.5%) had >2 pregnancies. The figure shows the point of entry into integrated care and the time of LTP by gestation age and the proportion who were ART naive. Only 36.4% (86/236) of the women were enrolled in the first trimester. Overall 69 (8.1%) were LTP. In the multivariate analysis older women (OR: 0.96 per year increase; CI: 0.91-0.99; P=0.042) and women on ART at the time of pregnancy (OR:0.52, CI: 0.31-0.88, P=0.015) were more likely not to be LTP. **Conclusions:** As a result of integrated PMTCT and HIV services we observed a low rate of LTP; however our data suggests the need for interventions to enhance linkage of HIV-positive women for prompt ART initiation and for increased retention in care of young and ART naive women.

**TUPE057 INVESTIGATING ASSOCIATIONS BETWEEN USE OF CHEMSEX DRUGS AND HIV CLINIC ATTENDANCE AMONG GAY AND BISEXUAL MEN IN THE UK**

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**Background:** The benefits of HIV treatment are only realised when people are aware of their HIV status and engaged in care. There are limited data on the association between engagement in HIV care and use of “chemsex” drugs among gay and bisexual men in the UK. We investigated this as part of the REACH project.

**Methods:** We conducted a cross-sectional survey among patients attending seven HIV clinics in London (May 2014-August 2015). We recruited regular attenders (RA: all appointments attended in past year), irregular attenders (IA: 1+ appointments missed in past year) and non-attenders (NA: attended in past year after absence of 1-year). The sample was stratified to over-represent IA and NA. We selected men who identified as gay or bisexual.

We examined the association between socio-demographic, economic and HIV-related factors and use of crystal methamphetamine (crystal meth), gamma-butyrolactone (GBL) and mephedrone. We used binary logistic regression to examine the association between use of chemsex drugs and HIV clinic attendance, adjusting for associated variables.

**Results:** Gay and bisexual men represented 58.0% (570/983) of the sample (median age=45 years; 76.8% white; 59.0% RA, 26.7% IA, 14.4% NA). At survey completion, 87.5% were on ART and 19.5% had a detectable VL (>50 copies/ml). In the past year, 22.8% reported using crystal meth; 23.7% GBL; and 31.4% mephedrone.

Using crystal meth was associated with a detectable viral load (27.8% vs 17.2%), GBL with being younger (mean age=40.4 vs 46.7 years) and more recently diagnosed (mean=9.3 vs 12.2 years), and mephedrone with being younger (39.7 vs 47.7 years), more recently diagnosed (9.0 vs 12.7 years) and ART naive (14.5% vs 6.0%), (all p<.01).

Men were significantly more likely (p<.05) to be IAs than RA as they had higher crystal meth use (33.3% vs 17.6%; aOR=1.93 [95%CI: 1.13-3.29], p=.024) or GBL (32.4% vs 19.4%; aOR=1.82 [1.41-2.33], p=.001) but not mephedrone (37.2% vs 27.9%; aOR=1.73 [0.97-3.13], p=.06). Use of chemsex drugs was not significantly more likely among NAs than RAs.

**Conclusions:** Use of chemsex drugs is associated with irregular clinic attendance. This should be considered when developing interventions to improve engagement in HIV care among gay and bisexual men.

**TUPE058 RISK OF CLINICAL PROGRESSION AMONG PATIENTS RE-ENTERING IN CARE AFTER BEING LOST**

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**Background:** A non negligible proportion of patients with HIV may re-engage in care after being lost at different steps of the cascade of care. We evaluated in the Icona cohort the risk of clinical progression of patients re-entering in care.

**Methods:** Persons enrolled in 1997-2014 were included. Patients were considered lost to care if they had no clinical visit for at least one year. CD4-cell count and HIVRNA before and after the gap in care (GIC) were evaluated by paired t-test or McNemar’s test. A Poisson regression analysis was used to investigate the association between having a gap in care and the risk of clinical events (AIDS, serious non-AIDS events (malignancies, severe infections, ESKD, cardiovasular events, ESLD) hospitalization or death).

**Results:** 2,708 (21.8%) out of 12,429 patients were lost to care; the incidence rate ranged from 12.3 in 1998 to 1 < 1 per 100 PYFU in 2014. 433 patients (16.7%) re-entered the cohort after a mean gap in care of 2.8±2.7 years.

At last visit before GIC, median CD4 were 551±323 cells/µl; while after re-entering care this value decreased to 444±359 (p<0.001). The proportion of patients having CD4-cell count<200 increased from 10.7% before to 25% after re-entering care.
TUPEBO60
6-MONTHS OUTCOMES OF PATIENTS INITIATING ART UNDER THE WHO TEST & TREAT APPROACH

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Background: Who recommends anti-retroviral therapy (ART) for all people living with HIV regardless of CD4 count, known as Test and Treat (T&T). However, T&T is feared to lead to inferior treatment outcomes in patients initiating ART at high CD4 counts, specifically in men. We report on early outcomes of one of the first T&T demonstration projects in the public health sector in Sub-Saharan Africa.

Methods: This is a prospective cohort of non-pregnant patients (aged ≤16 years) who initiated ART in 9 public health facilities in the rural Nhlangano health zone in Swaziland, from October 2014 to April 2015. Follow-up was until the occurrence of an unfavourable treatment outcome (death/lost-to-follow), or censored at date of transfer-out and database closure (September 2015). Kaplan-Meier estimates described 6-months retention on ART rates, and Cox proportional hazard models assessed predictors of the unfavourable outcome while adjusting for baseline characteristics (gender, CD4 count, WHO stage, same-day treatment initiation, newly diagnosed/known HIV+ case, body mass index, baseline TB status).

Results: Of 625 patients initiated on ART, 427 (68.3%) were females, the median age was 33 (IQR 27-42) years and 302 (48.3%) were newly diagnosed with HIV. At ART initiation, 280 (44.8%) patients had a CD4 count <349, 159 (25.4%) between 350-499, 182 (29.1%) ≥500 and 4 (0.6%) had missing value. The overall crude six-month retention on ART was 86.8% and it was similar between women (87.0%) and men (86.2%) (p=0.74). Retention was higher in the CD4 strata 350-499 (89.2%) and CD4≥500 (90.0%) when compared to CD4<349 (83.5%) (p<0.05). In multivariate analysis, there was no difference in outcomes by gender (women: adjusted Hazard Ratio [aHR] 1.08, 95% CI 0.68-1.72). However, higher CD4 levels (CD4 350-499: aHR 0.75, 95%CI 0.42-1.31; CD4≥500: aHR 0.71, 95%CI 0.40-1.24) showed a trend of decreased probability, and combined WHO stage III/IV (aHR 2.35, 95%CI 1.41-3.89) and same-day ART initiation (aHR 1.68, 95%CI 1.02-2.79) an increased probability of an unfavourable outcome.

Conclusions: Patients with high baseline CD4 counts and both gender had good early treatment outcomes when ART was started under the T&T approach. Program managers in similar settings should not fear to quickly adopt T&T.
apy and co-dispensation of ART with methadone. Similarly, re-initiation sometimes coincided with increased stability in participants’ lives, stemming from reduced drug use or obtaining housing, which reduced potential for non-adherence.

**Conclusions:** Our findings illustrate how extra-individual forces influence ART re-initiation among PWID, and have the potential to inform targeted interventions to improve treatment retention for this key population. Programmatic interventions (e.g., housing, maximally assisted therapy, ART co-dispensation with methadone) have potential to engage PWID and promote re-initiation of ART. Barriers to adher- ence can be addressed as ART is re-initiated, and the process may provide an opportunity to optimize dispensing and care arrangements to minimize potential for further treatment interruptions.

**TUPEB062**

**FACTORS ASSOCIATED TO ATTENTION AT THE ART PROGRAM IN MOZAMBIQUE**

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**Background:** In Mozambique, 497,655 individuals initiated ART in 2013. Retention remains the main challenge despite efforts to provide life-saving therapy. High rates of lost-to-follow up (LTFU) characterize the Mozambican ART program and reached 30% in 2013. In this study we explored the clinical and sociodemographic factors associated to attrition in Maputo (MP) and Cabo Delgado (CD) provinces from January 2012 to December 2013.

**Methods:** This was a retrospective analysis of secondary data from patients on ART extracted from an electronic database. Risk factors were evaluated by data comparision from LTfu to patients that remained in care. Descriptive analysis was performed based on clinical and sociodemographic characteristics, and factors associated to LTFU assessed through uni- and multivariate logistic regression analysis. Statistical analysis was performed using STATA 13. Study was approved by the bioethics committee of the Faculty of Medicine of UEM.

**Results:** Of the 46123 patients who initiated ART, 7.5% (3451) were children with a median age at ART initiation of 4.1yrs (IQR 1.6-8.3) for MP and 2.5yrs (IQR 1.6-3.3) in CD. In total 23% (10639) were LTFU. Of the LTFU patients, 52% and 48% occurred in MP and CD, where the LTFU rate was 15.9 and 40.1 per 100yr, respectively. Significantly higher rates were observed in male patients in both provinces (20.6 vs 19.9 per 100yr p<0.001 and age 0.3 vs 29.5 per 100yr p=0.030). Male gender and living in rural area where factors associated to LTFU in both provinces. Education, being single, WHO stages II-IV at ART initiation and ART initiation in 2012 were factors associated to LTFU in MP. Immunosuppression and ART initiation in 2013 were associated to LTFU in CD. In children LTFU rate was 16.4/100yr (CI95%:14.9-18.1) in MP and 44.5/100yr (CI95%: 40.6-48.6) in CD. In both provinces, factors associated to LTFU were advanced disease staging (CD:RR=1.51(IQ:0.9-2.10) p<0.001 and MP: RR=1.91 (1.35-2.71)p<0.001) and age 0.2yrs (CD:RR=1.15(1.1-1.76) p<0.001 and MP=RR=1.6)(2.8-20.8)p<0.001.

**Conclusions:** Our results identified key factors associated to LTFU such as education, gender and advanced disease staging in general population, and young children, showing the need for strategic directed interventions that would prevent and/or timely identify potential losses.

**TUPEB063**

**PSYCHIATRIC DISORDER, SUBSTANCE ABUSE AND DISTRESS DURING THE FIRST SIX MONTHS OF EARLY ANTIRETROVIRAL TREATMENT**

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**Background:** Individuals initiating antiretroviral treatment (ART) experience high rates of psychiatric disorders and psychological distress, affecting many health-related outcomes (retention in care, virological control, quality of life). It is not clear whether these rates subside as individuals link to services, accept ART, and adjust to living with HIV. We examined whether psychiatric disorders, substance/alcohol use problems and psychological distress would diminish in a significant number of individuals six months after entering care and initiating ART.

**Methods:** IsiXhosa-speaking, Black South African HIV+ adults eligible for ART were enrolled into an ART adherence intervention trial and completed baseline (n=454) and six-month follow-up (n=431) assessments, which included the Kessler-10 and Substance Abuse and Mental Illness Symptoms Screener (SAMISS). Generalized estimating equations were used to examine changes in psychiatric and substance/ alcohol problems status from baseline to follow-up.

**Results:** At baseline, 56.4% screened positive for a substance/alcohol problem, and 41.7% screened positive for a psychiatric condition. Using a cut-off score of ≥16 on the K10, 35.2% reported at least mild psychological distress. At follow-up, 34.3% screened positive for a substance/alcohol use problem, 0% screened positive for a psychiatric condition, and only 12.3% had a K10 score of ≥16. When controlling for baseline gender, age, CD4 count, and TB status, analysis indicated that participants were significantly less likely to screen positive for an alcohol/substance problem (OR=28.95%,CI=[0.19, 0.40],p<0.001), and have a score of ≥16 on the K10 (OR=1.43, 95%,CI=[0.32, 0.52],p<0.001) at follow-up (note: Odds Ratios not available when rate is 0% as with psychiatric conditions).

**Conclusions:** High rates of psychiatric disorders, substance/alcohol problems and psychological distress present in individuals initiating ART may be the result of a recent HIV diagnosis and or other life stressors. Following ART counseling, ART initiation and linkage to HIV services, the rates of substance/alcohol problems significantly dropped, particularly for psychiatric disorders. Rates of at least mild psychological distress also substantially abated. These findings suggest that ART counseling may play a substantially more important and broader role in recently diagnosed and treated HIV patients. ART counselors may greatly benefit from increased training and supervision to address mental health and substance use problems.

**TUPEB064**

**NATIONAL LABORATORY DATA TO ASSESS RETENTION IN CARE AFTER CLINIC TRANSFER TO SOUTH AFRICA**

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**Background:** PEPFAR funding changes have led to HIV clinic closures and patient transfers to government-funded, community-based clinics in South Africa. Data on retention in care following such transfers are limited.

**Methods:** All adults (≥18yr) on ART who visited a PEPFAR-funded hospital-based HIV clinic in Durban from March-June 2012 were transferred to community-based clinics. As a proxy for retention in care, we used CD4 count or viral load (VL) follow-up in the National Health Laboratory Services (NHLS) centralized data warehouse [CDW]. The NHLS provides laboratory services to >80% of South Africa. Deaths were ascertained from the National Population Registry. We matched patient records from the hospital-based HIV clinic with CDW data to estimate the proportion of patients with...
a CD4/VL record in the CDW during the year before transfer. We then evaluated whether patients had a post-transfer CD4/VL documented at another facility within 2 years. Among those with a matched value pre-transfer, we assessed predictors of not having post-transfer laboratory data in the CDW using multivariable logistic regression.

Results: Of 3,905 patients transferred, 59% were female and median age was 39 years (IQR 34-46). 3,469 (89%) patients had at least one matched pre-transfer CD4/VL in the CDW. Excluding 270 participants who either died within 9 months of transfer or transferred to a private clinic, 3,635 patients were assessed for post-transfer matching, of whom 2,384 (66%) had a post-transfer laboratory test from another facility. Of those surviving who had a pre-transfer matched record (3,228 patients), being male (aHR 1.2, 95% CI 1.0-1.3) and shorter ART duration at transfer (≤3 months, aRR 1.5, 95% CI 1.1-2.1; 3 months - 1 year, aRR 1.3, 95% CI 1.1-1.5, each compared to >1 year) were predictors of not having a post-transfer record in the CDW.

Conclusions: Two-thirds of patients had evidence of a post-transfer visit to another facility after closure of a large South African HIV clinic. Males and those with shorter ART duration at transfer were at highest risk for lacking follow-up laboratory data. As PEPFAR-funded clinics close, national data sources can be used to evaluate the long-term patient care trajectories within public clinics.

TUPEB066 SOCIAL DETERMINANTS OF HEALTH AND RETENTION IN HIV CARE IN A CLINICAL COHORT IN ONTARIO, CANADA

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Background: Continuous HIV care supports antiretroviral therapy initiation and adherence, and prolongs survival. We investigated the association of social determinants of health (SDH) and subsequent retention in HIV care in a clinical cohort in Ontario, Canada.

Methods: The Ontario HIV Treatment Network Cohort Study (OCS) is a multi site cohort of patients at 10 HIV clinics. Data were collected from medical charts, interviews, and via record linkage with the provincial public health laboratory for viral load tests. For participants interviewed in 2009, we used three category multivariable logistic regression to identify predictors of retention in 2010-2012, defined as (1) continuous care (≥2 viral loads ≥90 days in all years; reference category), (2) discontinuous care (only 3 viral load/year in ≥1 year); and (3) a gap in care (≥2 years in 2010-2012 with no viral load).

Results: In total, 1,838 participants were included. In 2010-2012, 71.7% had continuous care, 20.9% had discontinuous care, and 7.5% had a gap in care. Discontinuous care in 2009 was predictive (p = 0.001) of future retention. SDH associated with discontinuous care in 2010-2012 were hazardous drinking (vs. none; Adjusted Odds Ratio, 95% Confidence Interval: 1.4, 1.1-1.8) and non-injection drug use (vs. no drug use; 1.4, 1.0-2.0). Indigenous ethnicity (vs. White) was positively associated with experiencing discontinuous care (1.9, 1.3-2.8). Participants who were 35-49 (0.6, 0.4-0.9) or ≥50 (0.6, 0.4-0.9) years of age (vs. < 35), who immigrated ≤10 years ago (vs. Canadian-born; 0.4, 0.2-0.8), and who were not in the labour force (0.5, 0.3-0.7) or on disability (vs. being employed; 0.7, 0.5-0.9) were less likely to experience discontinuous care. Being a heterosexual male (2.4, 1.4-4.4) was associated with having a gap in care compared to men who have sex with men. Participants who were 35-49 (0.4, 0.3-0.8) or ≥50 (0.3, 0.1-0.6) and married (vs. single; 0.6, 0.4-0.9) were less likely to experience a gap in care.

Conclusions: Various social determinants of health were associated with retention. Care discontinuity was highly predictive of future gaps. Targeted strategic interventions that better engage those at risk of suboptimal retention merit exploration.

INDICATORS OF QUALITY OF CARE

TUPEB067 SOCIOECONOMIC POSITION IS UNRELATED TO SURVIVAL AND VIROLOGIC OUTCOMES IN A TEN-YEAR FOLLOW-UP COHORT OF UGANDAN PATIENTS RECEIVING ANTIRETROVIRAL THERAPY

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Background: Substantial evidence links low socioeconomic position with negative disease outcomes in various populations and settings. As ART access improves and HIV has become a chronic disease, differential outcomes are increasingly observed between patients of high and low socioeconomic position. We investigated if low socioeconomic position predicts mortality and HIV viral failure among individuals

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receiving ART at an urban HIV clinic in Kampala, Uganda.

Methods: We enrolled 559 HIV-positive adults starting ART in a prospective cohort from 2004-2005 and followed them for 10 years. Upon enrollment we collected baseline demographic and clinical data and we measured socioeconomic position by assessing employment status, monthly household income, education level and housing description (to measure wealth). Follow-up visits, including laboratory testing, were completed every 6 months. Viral failure was defined as two consecutive measurements greater than 1000 copies/mL or a single measurement greater than 5000 copies/mL when a second measurement was not available. We used Cox regressions to assess if indicators of low socioeconomic status were associated with increased viral burden or viral failure.

Results: 127/559 participants died (23%). We observed no independent associations between any socioeconomic indicator and viral failure after controlling for clinical stage and CD4 count at presentation. 166/472 (35%) experienced viral failure. We observed no independent associations between any socioeconomic indicator and viral failure after controlling for clinical stage and CD4 count at presentation. There was no difference in the cumulative probability of viral failure when subjects were grouped by education level or monthly income (Figure).

Conclusions: In our cohort of HIV-infected Ugandan adults receiving ART we observed no significant differences in 10-year survival or virologic outcomes that could be attributed to household income, employment status, level of education or housing description. These results are encouraging for free ART programs that predominantly serve patients of low socioeconomic position.

Methods: We analyzed baseline survey data from 1,425 WLWH (≥16 years; trans-inclusive) enrolled in the Canadian HIV Sexual and Reproductive Health Cohort Study (CHIWOS). Canada’s largest community-based cohort of WLWH. We measured the proportion of women engaged in seven nested stages of the care cascade, via self-report: HIV-diagnosed, linked to HIV care, retained in care, initiated ART, currently on ART, ART adherence (>90%), and viral suppression (<50 copies/mL). We examined attrition across stages overall and by age, ethnicity, housing stability, food security, illicit drug use, and violence. Among those currently on ART, multivariable logistic regression identified factors associated with not being suppressed.

Results: Median age was 43 (IQR: 35-50); 96% of women identified as cis-gender; 22% were Indigenous, 29% African/Caribbean/Black, and 41% Caucasian/White. Median years living with HIV was 11 (IQR: 6-17). Overall: 98% were linked to care; 96% retained; 88% initiated ART; 83% were currently on ART, 68% were adherent; and, among those on ART, 72% were virally suppressed with variation (45%-84%) by sub-population. The largest attrition occurred between ‘on ART’ and ‘ART adherence’ (-17%), with the greatest losses among women with Indigenous ancestry (-25%), current violence (-27%), and current illicit drug use (-32%). Substantial attrition also occurred between ‘linked to HIV care’ and ‘initiated ART’(-11%), with the greatest losses occurring among women 16-29 years (-20%) and with unstable housing (-27%). Adjusted odds of not being virally suppressed were significantly higher among women who were young [OR: 1.4 (95% CI: 1.1-1.79) per 10 years younger], female [OR: 1.77 (1.03-3.05), incarcerated in the past year [3.84 (1.56-9.45)], and currently using illicit drugs [3.25 (1.46-7.25)].

Conclusions: Nearly one-in-three WLWH in this Canadian cohort were lost across the HIV care cascade, with significant differences by stage, sub-population, and social inequities. Targeted interventions are needed to improve engagement across the care cascade for a diverse community of WLWH.

ACSROSS THE CASCADE FROM HIV TESTING TO CARE AND TREATMENT TO RETENTION

TUPEB069 INVESTIGATIVE STUDY ON MASSIVE HIV TESTING AND LINKAGE TO CARE AT HIGH BURDEN COMMUNITIES IN BENUE STATE, NIGERIA

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Background: HIV counseling and Testing (HCT) remains the entry point for HIV prevention, care and treatment. Despite this fact HCT uptake in Nigeria is still low. Mass HIV testing campaigns, in high burden communities with low uptake have proven to scale up HCT access and lead to successful linkage to care and treatment. Models such as PITC have showed promising results. This study demonstrates that structured HCT campaigns in communities with poor HIV testing services, through client initiated counseling and testing leads to expansion of HCT services and consequently scale up clients enrolled to care and treatment.

Methods: A descriptive cross-sectional study was used by AHF Nigeria to select 15,785 individuals between 8 hours in a day from high burden communities of Agasha, Awusapla, Aga and Pevi in Guma, Buruku and Katinaa LGA’s in Benue State who volunteered for testing. Participants were counseled, tested and received results according to the Nigerian National guidelines using an approved semi-structured questionnaire to collect socio-demographic information, knowledge and HIV risk assessment.

Results: Of all 15,785 participants that were screened for HIV according to the national HIV testing algorithm, 10,558 (67.5%) were males while 5,104 (32.3%) were females. 18.6% of the testers were between 0 months old-14 years of age, 43.3% were between 15 and 25 years of age, 31.4% were 25 to 49 years of age, the remaining group (6.7%) were aged 50 years and older. 73.2% got tested because they had unprotected sex, 13.1%, 9.4% and 4.3% got screened due to blood transfusion, MTCT and Injection Drug Use, respectively. 366 (2.3%) reactive cases were identified and 295 (80.6%) linked to care & treatment within 30 days. Majority (56.3%) of the clients had no prior access to HIV test and were unaware of their status.

Conclusions: Mass testing campaigns in high burden communities without access to HIV services significantly increased knowledge of people’s HIV status. Essential is that after testing active client follow-up enhances and scales up linkage to care and treatment.

It is recommended that structured HCT campaigns in communities with poor access to testing services will promote HIV treatment and contribute to the fight against AIDS.
TUPEB070
FEASIBILITY AND EFFECTIVENESS OF PEER NAVIGATORS TO INCREASE UPTAKE OF HIV TESTING, CARE AND TREATMENT AMONG STREET-CONNECTED CHILDREN AND YOUTH IN ELDORDET, KENYA

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Background: Preliminary research suggests a substantial epidemic of HIV among street-connected children and youth (SCY) in Eldoret, Kenya. It also suggests that very few HIV-positive SCY are engaging with HIV care or using antiretroviral therapy (ART). We piloted and evaluated the use of Peer Navigators (PN), used successfully in other settings, to increase SCY’s uptake of interventions along the HIV prevention-care continuum.

Description: We defined a PN as an HIV-positive person aged <25 years, with >1 year of direct experience being street-connected, current knowledge of the local SCY community, and an ability to read, write, and do arithmetic up to a Standard/Grade 4 level. One male and one female PN underwent multi-disciplinary training and subsequent mentorship and supervision. Using community outreach including daily visits to known locations SCY frequent, and accompanied to the facility, the PN engaged 330 SCY aged <25 between May-December 2015, 28% female. Twenty-nine (9%) SCY were known positive at first contact (including 11/93, 23% of females). Another 261/301 (87%) agreed to HIV testing (including 72/72, 100% of females), of whom 27/261 (10%) tested positive (including 18/72, 25% of females). Overall, 56/330 (17%) SCY in this program were HIV-positive; 7% of males and 33% of females. PN were the key bottlenecks identified that contributed to these gaps. Programmatic and administrative interventions coupled with supportive supervision and follow ups to all the ART centers, regular review meetings and mentoring of the staff on guidelines, data management, collection and validation were done. Capacity building at all levels for undertaking the cascade analysis, identify and fill the gaps was done. A system of sending quarterly feedback to the nodal officers and head on institutions was started to enhance the ownership of the ART centers.

Lessons learned: There was a rapid improvement in all the steps of the treatment cascade form 2010-11 to 2014-15.

TUPEB071
TIME SINCE DIAGNOSIS TO ART INITIATION IN INDONESIA: IMPLICATIONS FOR CARE LINKAGES

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Background: This study examined the trend in time intervals between diagnosis to ART initiation in the periods leading up to the test-and-treat ART regime in application since 2013. We estimated the time taken to initiate by risk group, gender, and across diagnosis time.

Methods: Dataset was a Community Access to Treatment, Care and Support (CAT-C) study in 7 provinces of Indonesia, comprising 1,655 HIV+ surveyed participants. We used data from 1,098 on-ART participants, or 89% of the total in this category. Finite mixture models were used to differentiate distributions based on the length of time to ART initiation. These two distributions were labeled ‘slow’ and ‘swift’, respectively. Our final model comprised risk groups, gender identity, age (and age-squared), year of initiation, whether symptoms were present at diagnosis (yes/no), and self-reported initial CD4 count.

Results: We included participants initiating ART from as earliest as year 2001. The ‘swift’ initiation group had a mean length of time to initiation of 4.78 months, whereas the comparable figure for the ‘slow’ initiation group was 25.37 months. People who inject drugs had the longest time to initiation in both groups. By gender, transgenders on average took an extra 3.27 months (95% CI: 2.42-4.12) to initiation compared to males. Each calendar year added less than one month to initiation delay, yet shortens time to initiation for those in the ‘slow’ group. People who inject drugs, younger age groups, and transgenders were at an increased risk of late ART initiation.

Conclusions: Being symptomatic at diagnosis was an indication of deferred ART initiation, yet shorter time to initiation for those in the ‘slow’ group. People who inject drugs, younger age groups, and transgenders were at an increased risk of late ART initiation.

TUPEB072
INTERVENTION AND IMPACTS: TREND ANALYSIS OF RETENTION CASCADE OVER 5 YEARS IN RAJASTHAN, INDIA

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Background: Rajasthan is a low prevalence state with high vulnerability for HIV, geographically largest state situated in Western India, having an estimated 103148 PLHIV. There are 23 ART Centers catering to 30,153 PLHIV, of whom 25,995 were on ART. The number of ART centers have been scaled up from 02 in 2005 to 23 in 2015. Analysis of retention cascade for 2010-11 revealed that there were significant gaps at each step.

Description: Review and analysis of the cascade at state level was done to identify the gaps that existed between HIV diagnosis and linkage to care, baseline CD4 testing, ART initiation and retention at 12 months. Large number of vacancies and delays in recruitment, lack of optimal coordination between the testing and treatment divisions and incomplete and poor data for [linkages, referral and drug stocks] were the key bottlenecks identified that contributed to these gaps. Programmatic and administrative interventions coupled with supportive supervision and follow ups to all the ART centers, regular review meetings and mentoring of the staff on guidelines, data management, collection and validation were done. Capacity building at all levels for undertaking the cascade analysis, identify and fill the gaps was done. A system of sending quarterly feedback to the nodal officers and head on institutions was started to enhance the ownership of the ART centers.

Lessons learned: There was a rapid improvement in all the steps of the treatment cascade form 2010-11 to 2014-15.

TUPEB073
RETENTION CASCADE IN HIV CARE SETTINGS IN INDIA: TRENDS OVER TWO YEARS

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Background: Approximately 0.2 million newly detected HIV positive person register every year in National ART programme at 520 ART across the country. The National programme aims in providing universal access to comprehensive care package and improvement in quality of life of PLHIV through a network of ART facilities and Care and support centers. Retention in care is a vital component of programme to achieve and sustain high level of viral suppression. Cascade model for measuring sequential retention at each stage is a useful way of monitoring trends and planning need based interventions.

Description: The retention cascade refers to the flow of patients from diagnosis of HIV to screening for ART eligibility, ART initiation for eligible patient and retention of patients who start ART. It outlines the proportion of individuals living with HIV who...
D’Ivoire, contre le Sida, Ministère de la Santé et de la Lutte contre le Sida, Abidjan, Côte d’Ivoire can be an effective way of improving programme performance. Need based inter characterizing the absolute and relative unmet treatment needs - supportive supervision and mentoring by regional coordinators and administrative high level of retention. This is mainly due to regular facility level cascade analysis, The improving trend has been observed in critical steps of linkages from testing to treatment sites and initiation of ART, also programme continues to maintain high level of retention. This is mainly due to regular facility level cascade analysis, supportive supervision and mentoring by regional coordinators and administrative interventions. However continuous focus is needed to sustain and improve performance to achieve target of universal coverage.

Conclusions/Next steps: Close monitoring of data using cascade based approach can be an effective way of improving programme performance. Need based interventions should be planned to plug the leaky cascade.

TUPEB074 THE HIV TREATMENT CASCADE AMONG MEN WHO HAVE SEX WITH MEN IN COTE D’IVOIRE: CHARACTERIZING THE ABSOLUTE AND RELATIVE UNMET TREATMENT NEEDS

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Background: Men who have sex with men (MSM) are disproportionately affected by HIV compared to other men—globally. In the West African nation of Côte D’Ivoire (CDI), MSM have consistently been shown to have high prevalence of HIV in small studies with separate qualitative data suggesting significant structural barriers to the uptake of anti-retroviral therapy (ART). The objectives of these analyses are to characterize the determinants of engagement in the HIV treatment cascade among MSM in CDI to inform the scale and implementation of ART programs. Methods: From 03/2015-10/2015, 1101 MSM were sampled in 4 cities (Abidjan=351), Bouaké (350), Gagnoa (n=150), Yamoussoukro (n=250), administered a structured survey instrument, and completed HIV testing according to national guidelines. EpiData was used for data management, and Stata 14 was used for data cleaning and analysis including Fisher’s exact test for comparison of proportions by age and city.

Results: The HIV prevalence varied significantly (p<0.01) by city with the highest prevalence in Abidjan (29.3%), then Yamoussoukro (10%), Gagnoa (4.7%), and then Bouaké (3.5%) for an overall HIV prevalence of 12.9% (Figure 1). Overall, 32.8% (n=451/137) of those living with HIV reported knowing their status, of whom 95.6% (433/451) reported current ART use. Uptake was defined as the proportion of women that had swallowed ARVs, while adherence was classified as good if women reported swallowing at least 95% of ART doses in the 30-days prior to the interview or poor adherence if swallowed less than 95%. Independent factors associated with adherence were obtained through multivariable logistic regression model using STATA version 12. Conclusions: A cross-sectional study was conducted in six health facilities offering ART in Masaka, Mityana, and Luwero districts in Uganda. We analyzed data for 385 women who came for their first post enrollment visit during antenatal and were part of 507 women enrolled into a prospective cohort within four weeks of ART initiation. Uptake was defined as the proportion of women that had swallowed ARVs, while adherence was classified as good if women reported swallowing at least 95% of ART doses in the 30-days prior to the interview or poor adherence if swallowed less than 95%. Independent factors associated with adherence were obtained through multivariable logistic regression model using STATA version 12. Background: Use of antiretroviral treatment (ART) by HIV+ pregnant women has significantly reduced mother-to-child transmission of HIV. However, uptake of and adherence to lifelong ART, and associated factors among pregnant women have not been fully evaluated in many Ugandan settings.

Methods: A cross-sectional study was conducted in six health facilities offering ART in Masaka, Mityana, and Luwero districts in Uganda. We analyzed data for 385 women who came for their first post enrollment visit during antenatal and were part of 507 women enrolled into a prospective cohort within four weeks of ART initiation. Uptake was defined as the proportion of women that had swallowed ARVs, while adherence was classified as good if women reported swallowing at least 95% of ART doses in the 30-days prior to the interview or poor adherence if swallowed less than 95%. Independent factors associated with adherence were obtained through multivariable logistic regression model using STATA version 12. Results: Half (50.7%) of women were young (16-24 years), 96.6% (373/385) were prescribed ART with Mityana Hospital at 100% (170/170) followed by Luwero HCIV and Masaka RRH at 98.8% (79/80) and 91.9% (124/135) respectively prior to the first follow-up visit. Uptake of ART was nearly universal (362/373, 97.1%), and early adherence was suboptimal (78.4%). Being immediately ready to start ART (adj. PRR=1.22; 95% CI: 1.04-1.44) was associated with higher prevalence of good adherence. The prevalence of good ART adherence was higher at Mityana Hospital (adj. PRR=1.47; 95% CI: 1.19 - 1.81) and Masaka RRH (adj. PRR=1.35; 95% CI: 1.09-1.67) relative to Luwero HCIV.

Conclusions: Uptake of ART was nearly universal but adherence was the first 2 months was sub-optimal. Efforts to enhance education and support HIV status disclosure are required to maximize the benefits of ART for HIV positive pregnant women.
Methods: KPs diagnosed with HIV are linked to the MARPI clinic by KP peers and once enrolled onto ART are followed by K-peers at the hotspots for adherence to medication, honoring clinic appointments and following those that fail to return to the clinic either by refusal or after moving to another hotspot. KPs with HIV are initiated on ART using standard procedures by a health team that includes the hotspots KP peer as the facility-community liaison.

Results: From April 2013 to the end of 2015, 750 KPs were enrolled in MARPI ART clinic (89% were sex workers and 11% LGBTI) and have been in care for at least 6 months. Of these 83% were initiated on ART and by the end of 2015, 14% (106 KPs) had not returned to the clinic for 3 or more months. Of those attending 83% (15%) were in another health unit. Of those in the clinic 16% (3%) had died. Of the remaining 445, after 6 months on ART, 79% had undetectable viral load.

Conclusions: Including KPs as part of the health care team for KPs on ART achieves a reasonable degree of viral suppression by improving adherence and clinic attendance. ART Care Models for KPs on ART should include KPs on the health team if ART care among KPs is to be achieved the 90-90-90 target.

TUPE077 LEAKS IN THE HIV TREATMENT FAILURE CASCADE: THE REALITY IN RURAL LESOTHO

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Background: Based on WHO recommendations many resource-limited settings have started rolling out routine viral load (VL) monitoring. In a prospective study on comorbidty and virologic outcomes among patients on ART in rural Lesotho (CART-1, clinicaltrials-ID: NCT03126696) we followed clinical and virological outcomes of patients who had un-suppressed viremia at their first-time VL.

Methods: Adult patients (≥16 years) on first-line ART for 6 months at 10 facilities in two districts in Lesotho received a first routine VL. As recommended by the WHO guidelines, patients with un-suppressed VL received enhanced adherence counseling (EAC) and follow-up VL after 3 months. Patients with sustained un-suppressed VL, defined as both VL ≥100 copies/mL, were considered eligible for switch to second-line ART. Clinical and virological outcomes were assessed 18 months after the first un-suppressed VL.

Results: The treatment failure cascade of 133 individuals on first-line ART (65.9% female) with VL ≥100 copies/mL is shown in figure 1.

A considerable loss in the effectiveness of the roll-out of VL testing could be observed at all steps: Of 80 patients with sustained un-suppressed VL 33 (41%) were retained in care with documented viral suppression at 18 months. Among the 62 switched to second-line 33 (53%) fully resuppressed HIV. Age, gender, household wealth, self-reported adherence, distance to facility, time on ART, educational level were found not to be associated with successful viral resupression.

Conclusions: Attrition from care and incorrect management of patients with un-suppressed VL (i.e. failure to switch to second-line despite sustained un-suppressed VL) were the main drivers decreasing effectiveness of VL-monitoring in this setting. In addition, among those who switched to second-line only 53% had documented viral resupression 18 months after first indication of treatment failure, indicating that persistently poor adherence may be the main parameter in the treatment failure cascade.

TUPE078 HIV TESTING FOR OLDER CHILDREN: A MIXED-METHODS STUDY EXAMINING CHALLENGES IN DECISION TO TEST, TESTING PROCESS, AND COPING POST-TESTING

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Background: Prompt testing and treatment of HIV-infected children is critical; yet, programs that routinely test older children prior to symptomatic disease are largely absent. Testing children of HIV-infected adults in care presents an opportunity for efficient case detection prior to symptomatic illness; understanding the challenges associated with this testing model can provide insights to increase uptake of testing.

Methods: Three focus group discussions with health care workers and 18 semi-structured, in-depth interviews with HIV-infected adults in care with children of unknown HIV status were conducted at Kenyatta National Hospital. Structured questionnaires were conducted with 116 HIV-infected adults in care with children of unknown HIV status, and quantitative data were used to generalize and validate the qualitative findings.

Results: Qualitative data revealed challenges during three periods of the pediatric HIV testing process: concerns about the decision-making process to test, the test visit itself, and coping during the post-test period. The greatest challenges from both qualitative and quantitative sources were inaccurate information about the likelihood of child infection and prognosis (most parents assumed either that older children could not be infected or were inevitably infected), challenges with permission and disclosure with partners, experiences with discouraging provider attitudes, lack of clear pediatric testing guidelines around consent/assent and disclosure to children, insufficient staff and inappropriate space for children, concerns about privacy, and real and perceived costs of testing and treatment.

Conclusions: Interventions are needed to address client, provider, and clinic-level challenges to pediatric HIV testing. Assisted disclosure services, small financial incentives, peer support groups, in-service provider training, and weekend and school holiday clinic dates merit evaluation to address challenges to pediatric testing.

[Figure 1: The treatment failure cascade in 133 adult patients on first-line ART with a first-time un-suppressed viral load (VL).]

[Challenges to pediatric HIV testing]
TUPEB079
WHO HIV TESTING ALGORITHM FAILS TO IDENTIFY SUBSTANTIAL PROPORTION OF INFANTS WITH HIV INFECTION

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Background: The WHO HIV testing algorithm for infants at sick care visits involves serologic testing followed by virologic testing if seropositive. Additionally, in PMTCT infant programs, HIV-exposed infant testing algorithms include virologic testing at 6 weeks, and serologic testing at 9 and 18 months. PCR testing is conducted on infants with positive HIV serology while seronegative infants receive repeat sero-testing at future visits.

Methods: Within a clinical trial (NCT02063880) conducted among critically ill, hospitalized children in 4 Kenyan hospitals, serologic and virologic tests on all HIV-exposed infants ≤9 months were performed. Maternal and infant serologic tests (using Determine® or KHB® for first test and Unigold® or First response® for second test per Kenyan guidelines) were performed in tandem. Dry blood spots were collected and tested using HIV DNA PCR irrespective of serological test results to determine the proportion of infants infected missed by the WHO algorithm.

Results: Among 142 HIV-exposed infants ≤9 months with both serologic and PCR testing, 44 (31%) were PCR positive. Among 50 seronegative infants 12 (24%) were PCR positive; among 82 seropositive infants 29 (35%) were PCR positive; among 10 serology indeterminate infants 3 (30%) were PCR positive. The research algorithm, which included PCR testing of seronegative infants, identified 38% more infant infections, compared to the WHO algorithm (44 vs 32 infections, respectively). Among the 12 serology negative, PCR positive infants, 7 (58%) were missed by PMTCT programs because their mothers reported testing HIV negative during pregnancy, likely representing acute infections during latepregnancy and postpartum; 2 (17%) infants of known HIV-infected mothers had tested negative earlier during infancy, likely representing breastfeeding transmissions; 2 (17%) infants were not previously tested despite known maternal HIV status; and 1 infant’s mother was not tested for HIV in pregnancy.

Conclusions: The current WHO HIV testing algorithm for sick infants using serology for screening did not detect a substantial number of infants with HIV infections detected by PCR. Virologic testing of HIV-exposed infants presenting for sick visits, regardless of their serological status, may be warranted to improve early detection and treatment of HIV.

TUPEB080
THEY ARE LIKELY TO BE THERE: FAMILY TESTING APPROACH TO FACILITATE ACHIEVEMENT OF 90-90-90 STRATEGY IN KENYA

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Background: In Kenya, less than half of all children 18 months to 14 years old with a HIV-positive parent have ever been tested for HIV. Strategies to identify and test children at increased risk for HIV are critical. This study examined the impact of a family-centered approach to reach children (0-14 years) with HIV testing.

Methods: We conducted a retrospective review of clinical records among a convenience sample of 60 high-volume clinics in Kisumu, Homabay and Migori counties. We reviewed the records of adult index patients who were enrolled in family-centered HIV care between May-July 2015 and followed family outcomes through December, 2015. Infant birth HIV status was determined by heel prick HIV dried blood spots at the referring National Health Laboratory Service (NHLS), with results available within 48 hours. All mothers were counselled regarding HIV testing and results. At the 3-day postnatal visit, infants found to be HIV-positive were initiated on ART either at the facility’s HIV clinic or referred to the nearest initiating facility.

Results: Of 2170 infants delivered at the PHC facility, 27% (576/2170) were HIV-exposed and tested at birth. Of these infants, 71 (1.2%) had a positive HIV-DNA PCR. The HIV-sero-prevalence rate in this maternal population is around 25%, a proxy for the expected number of HIV-exposed infants requiring birth testing. Of these, 6 infants were initiated on cART, with a median time to initiation of 7 days. 1 infant was lost to follow-up despite vigorous tracing. Of 1701 infants delivered at the secondary facility, 18% (318/1701) were tested for HIV at birth and 20.6% were found to be HIV-positive. All infants at this facility are down-referred to a PHC facility before birth HIV DNA PCR results are available; therefore initiation of these infants could not be confirmed and could not be traced.

Conclusions: Our preliminary results suggest that HIV birth testing at PHC level is both feasible and effective at identifying HIV-exposed infants early and initiating them on cART. However, gaps in the referral system at secondary level hindered early initiation of HIV-positive infants, ultimately undermining the goal of the new consolidated guidelines of birth testing. Further studies and consideration from policy makers are required.

TUPEB081
THE VALUE OF A POSITIVE ANTIBODY TEST AT 9, 12, AND 15 MONTHS IN HIV EXPOSED INFANTS ENROLLED AT THE BAYLOR CENTER OF EXCELLENCE (COE) IN MWANZA, TANZANIA

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Background: Tanzania national guidelines recommend different HIV testing algorithms based on age: 0-9 months DNA/PCR is the initial test and at 9-18 months rapid antibody tests are performed first then DNA/PCR if the rapid test is positive. At the COE, DNA/PCR is done at 4-6 weeks or at the initial visit for children under 9 months at enrollment who have not previously been tested, and rapid tests at 9, 12, 15 and 18 months. This study compares the results of rapid tests and DNA/PCR at 9, 12, and 15 months.

Methods: This is a cross-sectional descriptive study looking at exposed infants enrolled in care from January 2014 to December 2014. Patient test results were ob-
Infants with positive DNA/PCR were more likely to be enrolled in care late, be mixed feeding, have mothers who were not on ART, and not have received NVP prophylaxis.

Conclusions: Rapid antibody tests done at 12 and 15 months were more reflective of a child’s true status than at 9 months. With frequent shortages of DNA/PCR test kits and a poor correlation between rapid antibody tests and DNA/PCR at 9 months, delaying surveillance testing using rapid antibody tests until 12 months may improve the clinical utility of the test as well as provide a more cost effect approach to early infant diagnosis.

TUPEB084
IMPACT OF HIV INFECTION ON THE PHARMACOKINETICS OF FOUR FIRST-LINE ANTITUBERCULOSIS DRUGS IN CHILDREN WITH TUBERCULOSIS IN GHANA

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Background: HIV/IB co-infected children have a higher risk of dying from TB than children with TB alone during antituberculosis (anti-TB) therapy. The poor outcome may in part be due to lower anti-TB drugs exposure in the co-infected children. This study compared the pharmacokinetics of four first-line anti-TB drugs in children with TB/HIV coinfection to those with TB alone.

Methods: Children with TB with or without HIV coinfection on first-line anti-TB therapy for at least 4 weeks had blood samples collected at pre-dose, 1, 2, 4, and 8 hours post-dose. Drug concentrations were determined by validated liquid chromatography mass spectrometry methods and pharmacokinetic parameters calculated using noncompartmental analysis. Differences in PK parameters for each drug between children with TB and those with TB/HIV coinfection were compared.

Results: Of the 113 study participants, 59 (52.2%) had HIV coinfection, 63 (55.8%) were male, the median (IQR) age was 5.0 (2.2 - 8.5) years old, 23 (20.3%) were aged < 2 years old and 53 (46.9%) aged < 5 years old. The baseline characteristics were male, the median (IQR) age was 5.0 (2.2 - 8.5) years old, 23 (20.3%) were aged < 2 years old and 53 (46.9%) aged < 5 years old. The baseline characteristics and drug dosages for the two groups were similar except HIV/TB co-infected patients were more likely to have a lower weight-for-age and height-for-age z-scores (P < 0.05). The median plasma area under the concentration-time curve from 0 to 8 hours for isoniazid in the children with TB/HIV coinfection and TB alone were (18.4 vs. 21.2 µg*hr/mL; P=0.231), rifampin were (24.9 vs. 30.5 µg*hr/mL; P = 0.030), pyrazinamide (126.5 vs. 151.0 µg*hr/mL; P = 0.034) and ethambutol (4.8 vs. 7.6 µg*hr/mL; P = 0.0003), respectively. The median weight-normalized apparent oral clearance for isoniazid in the children with TB/HIV coinfection and TB were (0.50 vs. 0.44 L/hr/kg; P=0.405), rifampin were (0.53 vs. 0.45 L/hr/kg; P=0.044), pyrazinamide (0.12 vs. 0.10 L/hr/kg; P=0.010) and ethambutol (2.95 vs. 1.96 L/hr/kg; P=0.009), respectively.

Conclusions: HIV coinfection is associated with a higher clearance and a lower plasma exposure of rifampin, pyrazinamide and ethambutol in Ghanaian children with TB. Whether higher drug dosages may improve drugs pharmacokinetics and treatment outcomes in co-infected children need to be investigated.

TUPEB085
GROWTH RESPONSE TO ANTIRETROVIRAL THERAPY (ART) INITIATION AMONG HIV-INFECTED CHILDREN IN CARE IN WESTERN KENYA

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Background: In children HIV infection may cause growth failure which can be a proxy for treatment failure and disease progression. We investigated the rapid growth response to initiation of antiretroviral therapy shown by studies among HIV-infected children and associated factors.

Methods: We conducted a retrospective analysis of prospectively collected data in the database on HIV infected ART-naive children aged below 33 years attending the AMPATH pediatric clinics between 2005 -2009.A two-piece structural causal model was used to characterize the effect of ART initiation on anthropometric measures. Models were fitted separately by age (<2 vs ≥2 years) and CDC class at enrollment.

Results: Of 4147 participants included, 2208 (53%) were ever on ART and 3362 (81%) were aged below 2 years at enrollment. Average baseline weight-for-age (WAZ), height-for-age (HAZ) and weight-for-height (WHZ) z scores among those <2 years were -1.97 ±1.83, -1.69 ± 1.60 and -0.57 ± 1.76 respectively. Those aged <2 years had dramatic improvement in WAZ scores during the first year stabilizing at
Infected children, whose immune system has developed in the presence of the virus and bacterial products from the impaired gut, remain unexplored. We aim to characterize the intestinal microbiota of HIV-infected children compared to healthy children, and to modulate it using a nutritional supplement.

**Methods:** Pilot, double blind, randomized placebo-controlled study including HIV-infected children receiving a pre/probiotic supplement. DNA was extracted at baseline and after a 4-week intervention from stool samples and 16S rRNA gene amplifications were pyrosequenced. The sequences were analyzed using the Qiime pipeline. Bacterial biomarkers were identified using the LESE Biomarker discovery tool. Uninfected siblings were recruited as controls.

**Results:** 22 HIV-infected children completed the follow-up, and were compared to 13 controls. Mean age was 11.4±3.4, 8 (32%) were male. All were on ART and had VL<50/ml. Their microbiota showed reduced alpha diversity compared to controls (P=0.042) and distinct composition at the genus level (Adonis P=0.042). Patients showed decreased abundance of commensals Faecalibacterium and Lachnospira and increase of the pathogenic Fusobacterium but non imbalance of Prevotella trade-off, as observed in adults. After the intervention, changes between the microbiota of cases and controls were non-significant and an increase of the butyrate producers Faecalibacterium and Butyricicoccus was documented.

**Conclusions:** Vertical HIV infection is characterized by intestinal dysbiosis despite ART, but the abnormalities at the compositional level are distinct to the ones observed in adults. Although not fully effective to restore the microbiota, a short intervention with pre/probiotics attenuated bacterial dysbiosis, increasing butyrate producing bacteria, which may play an anti-inflammatory role.
TUPEB089

“IT IMPROVES OUR SKILLS TO HELP OUR CHILDREN”: INVOVLING CAREGIVERS IN THE CARE OF HIV+ YOUTH IN RWANDA

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Background: Caregiver and home environment are important sources of support for antiretroviral therapy adherence among adolescents with HIV. The Kagilu Imbereheza Project (KIP) in Rwanda trained HIV+ youth leaders to conduct a six-session intervention for HIV+ adolescents utilizing trauma-informed cognitive behavioral strategies to improve adherence. Additionally, caregivers were invited to participate in two sessions focusing on assessing and improving child-caregiver relationships to support adherence.

Methods: KIP enrolled 198 14-21 year old, HIV+ youth and 187 identified caregivers in a 2-arm randomized controlled trial at two HIV treatment sites for adolescents in Kagili. Caregivers (biologic parent or guardian who lived with the youth) participated in two 2-hour sessions conducted by Rwandan study psychologists at midpoint and conclusion of the youth intervention period. Sessions were didactic and experiential with a focus on HIV knowledge and stigma, parent-child communication, and adherence problem solving strategies. Caregivers provided demographics and reported information on psychosocial variables and attitudes, including HIV knowledge and stigma. Data was collected using audio computer assisted technology at baseline, 6, 12, and 18-months. Using SPS, we performed t-test analyses comparing change in knowledge and stigma over 18 months.

Results: The average age of a caregiver was 45 years, 78% were female, 60% had cared for youth for their entire life, 59% were also HIV+, and 57% were single parents. Caregivers reported low income with 43% being currently employed. 89% were literate. 59% had completed primary education and 42% reported a mental or substance abuse problem. Caregiver baseline data showed 82% had correct HIV knowledge, 76% reported supervising medication adherence 95% of the time, 94% indicated they ask youth about clinic visits, and 80% reported accompanying youth to clinic. Significant findings at six months post-intervention, showed that caregivers in the intervention group reported greater HIV knowledge (p<.0001) and less stigma (p=.0084) than the control group (p=.001). Caregivers in the intervention group showed greater knowledge of HIV at study conclusion compared to baseline (p=.0084 and p=.0319 respectively).

Conclusions: In this study, the caregivers’ intervention demonstrated improvement in HIV knowledge and reduction in HIV stigma that potentially will improve parent-child relationships, enhance antiretroviral adherence and improve health outcomes. Caregiver education is a valuable component of care for HIV+ adolescents.

TUPEB090

FACTORS ASSOCIATED WITH TREATMENT FAILURE AND DEVELOPMENT OF DRUG RESISTANCE AMONG HIV-1 INFECTED CHILDREN IN A SLUM-BASED TREATMENT PROGRAM IN KENYA

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Background: There’s limited data from the developing countries on antiretroviral drug resistance among HIV-infected children failing antiretroviral therapy, especially in the context of extreme poverty and a high tuberculosis co-infection burden. We used treatment records to evaluate the risk factors for the development of HIV resistance-associated mutations among a cohort of slum-dwelling children. We analyzed data of children that initiated antiretroviral therapy in a large slum-based clinic in Nairobi; we singled out all cases that had developed virological failure. Results: We included 57 children (median age 27.8 months). At ART initiation, most had advanced clinical disease (78.3% WHO stage III or IV), high baseline HIV viral load (median 7.12 log10) and TB co-infection (73%), severe malnutrition (median weight-for-age Z-score -2.5, median height-for-age Z-score -2.9. All children were initiated on PI-based regimens. Median time-to-virological failure was 15.1 months (11.3-19.8, p= 0.03). The commonest mutations were M184V (41), V90M (13), and K103N (8). 34.5%(9) children had multi-class resistance mutations, in 16(47%) of whom M184V in reverse transcriptase was linked to PI resistance mutations. Factors co-related to presence of resistance mutations were: low weight-for-age and height-for-age (p=0.04; p=0.03); longer duration on PI regimens and virological failure (p=0.03; p=0.006); un-suppressed HIV viral load at 12, 24 and 36 months of ART (p=0.001); tuberculosis treatment at ART initiation (p=0.039); lack a regular primary care-giver (49% p=0.002), orphan (p=0.004), parent/guardian failing ART (p=0.002). Multivariate analysis showed significance of cumulative months on PI regimens and use of ritonavir as single PI (p=0.013; p=0.028).

Conclusions: Multiclass resistance mutations were the common in this cohort of HIV-1 infected children failing therapy. Duration of therapy, PI-regimen use, co-infection/TB treatment and lack of a consistent primary caregiver showed a multifac- torial association to development of resistance. There’s need for more interventions to address the treatment challenges of children in extreme poverty.
Background: Regimen durability is crucial for survival to adulthood. In South Africa, first-line ART for children older than five years was stavudine-based (d4T) until April 2010, when tenofovir (TDF) replaced d4T. We investigated predictors of single-drug substitutions (SDS), treatment interruptions (TI), and switches to second-line therapy (SLT).

Methods: Prospective study of patients 5-19.9 years initiating ART between April 2004-April 2012 at 8 public-sector HIV clinics. SDS was defined as change of nucleoside reverse transcriptase inhibitor without switching to SLT; TI was defined as ART cessation; SLT switch was defined by at least two drug changes across two classes. Adjusted Cox models were used to determine predictors of outcomes.

Results: 1978 children were eligible. Over 24-months follow-up, 310 (15.7%) SDSs; 67 (3.4%) SLT switches and 304 (15.4%) TI occurred. SDS frequency peaked in 2010 (24%), then declined in 2011 (11%). TI peaked in 2006 (22%) with decline in 2011 (11%). Patients initiated on d4T (vs. TDF) had 67 (3.4%) SLT switches and 304 (15.4%) TI occurred. SDS frequency peaked in 2010 (24%), then declined in 2011 (11%). TI peaked in 2006 (22%) with decline in 2011 (11%). Patients initiated on d4T (vs. TDF) had a 500% increase in the hazards of SDS (HR 6.01, 95% CI 2.2-16.61), ART initiation in 2009 and 2010 (vs. 2011) had a 100% increase in the hazards of SDS (HR 2.16, 95% CI 1.14-4.11). Initiation on d4T trended towards increased hazards of TI (HR 1.52, 95% CI 0.9-2.56). Neither initiation on d4T or year of initiation was associated with increase in SLT switch.

Conclusions: The SDS peak in 2010 likely resulted from treatment-experienced patients switching from d4T to TDF. Declines in SDS and TI may have resulted from fewer side-effects/toxicities from TDF, but TDF initiation doesn’t account for decreased TI since 2006. The proportion of SLT switches hasn’t changed, though regimen durability overall has improved after introduction of TDF.

Trends in single-drug substitution, second-line switches and treatment interruptions in children and adolescents 5 years to 19.9 years of age (n=1978).

TRENDS IN SINGLE-DRUG SUBSTITUTION, SECOND-LINE SWITCHES AND TREATMENT INTERRUPTIONS IN CHILDREN AND ADOLESCENTS 5 YEARS TO 19.9 YEARS OF AGE (N=1978)
TUPEB094

ADHESION MEASUREMENT AND SUPPORT SERVICES FOR HIV-INFECTED CHILDREN AND ADOLESCENTS FOLLOWED IN GLOBAL SITES OF THE INTERNATIONAL EPIDEMIOLOGIC DATABASES TO EVALUATE AIDS (IeDEA)

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Background: Sustaining adherence to antiretroviral therapy (ART) is central to successful long-term HIV care for children and adolescents. We used to describe the most effective strategies to improve adherence in resource-limited settings or have a clear picture of the services currently available. We sought to describe how global HIV care programs measure and support pediatric ART adherence.

Methods: Using a web-based survey (REDCap), we assessed adherence measurement, support services, and relevant pediatric care system characteristics at sites caring for pediatric patients in 6 global regions of the International Epidemiologic Databases to Evaluate AIDS (IeDEA) consortium.

Results: Clinical staff from 180 pediatric sites in 45 countries completed the adherence measurement survey between June 2014-March 2015. Sites were in Asia (n=16 sites; 4,357 children), Central and South America (n=7; 1,746 children), Central Africa (n=18; 906 children), East Africa (n=33; 12,218 children), Southern Africa (n=95; 45,644 children), and West Africa (n=11; 8,932 children.) Most sites managed both adults and children (82%). Open clinician adherence assessment (used at 87% of sites) and pharmacy refills (86% of sites) were the most common adherence measurement methods used globally (Table 1). All sites used at least one measure. Structured recall items (71%) and targeted HIV viral loads (75%) were also common. Available adherence support services varied widely across sites, with counseling most common and few sites using SMS reminders (Table 2).

Conclusions: Most children on LM experienced immunologic decline. The clinical significance of this decline warrants further investigation including comparison with those who interrupt treatment or remain on triple therapy.

TUPEB095

DOES NEOCORTIC FUNCTION AND/OR ANXIETY/DEPRESSION PREDICT ADHERENCE TO ANTIVIRAL THERAPY AMONG PERINATALLY HIV-INFECTED ADOLESCENTS IN ENGLAND?

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Background: Perinatally HIV-infected (PHIV) young people are entering adulthood, often with complex clinical and psychosocial issues which may affect adherence to ART. This is at a time when they are increasingly expected to self-manage their HIV care.

Methods: 296 PHIV aged 13-21 years were recruited into the APLII cohort in England from 2013-15. Baseline data included (via computer-assisted self-interview) short-term adherence (any v. no missed doses in last three days), anxiety/depression (HADS), quality of life (PedsQL), drug/alcohol use, and self-perception about having HIV (composite score of level of upset, worry, sadness, loneliness, concern

<table>
<thead>
<tr>
<th>Characteristic at ART or LM start</th>
<th>Adjusted HR (95% CI) n=130</th>
<th></th>
<th>Characteristic at ART or LM start</th>
<th>Adjusted HR (95% CI) n=130</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years at ART start</td>
<td>&lt;2</td>
<td>1</td>
<td>Immune suppression at ART start</td>
<td>Not immune suppressed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2-6</td>
<td>2.05 (0.90-4.68) 0.0213</td>
<td>Immune suppressed</td>
<td>2.25 (1.18-4.3) 0.0439</td>
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<tr>
<td></td>
<td>6-9</td>
<td>2.02 (1.38-5.76)</td>
<td>Missing</td>
<td>2.10 (1.06-4.17)</td>
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<tr>
<td></td>
<td>&gt;9</td>
<td>3.07 (1.36-6.73)</td>
<td>Ever on a PI-based regimen</td>
<td>1.08 (0.66-1.72) 0.738</td>
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</tr>
<tr>
<td>Prior Treatment Interruption</td>
<td>2.27 (1.32-3.89)</td>
<td>0.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD4 at LM start</td>
<td>&lt;500</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500-750</td>
<td>1.28 (0.77-2.15)</td>
<td>-</td>
<td>0.14</td>
<td></td>
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<tr>
<td></td>
<td>750-1000</td>
<td>0.91 (0.46-1.78)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>0.42 (0.20-0.89)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

[Did not use associations with a decline in CD4 of >10% from LM start or a drop in CD4 count <500 cells/µL in those with CD4>500, stratified by site]
about future health). A summary (NP2-6) score was calculated for neurocognitive function. Logistic regression examined predictors of short-term non-adherence.

Results: 261 (89%) of 296 PHIV were on ART (94% once-daily) at recruitment. 11,413 (43%) were male, 220 (84%) black, median age was 16 years (IQR 15.18) and for 87% (159) one/both biological parents had died. 72 (28%) had CDC Stage C; 78% had viral load (VL) ≤50 copies/ml. 242 (93%) were in full-time education, 236 (91%) lived with their parents/carers, and 50 (19%) had transferred to adult care. 17% and 5% had moderate/severe anxiety and depression respectively, and mean NP2-6 score was -0.58 (SD 0.86).

Overall 70 (27%) reported missing ≥1 ART dose in the last 3 days, most often due to forgetting (66%) and being too busy (29%). Of those with VL≤50 copies/ml, 51% reported missing doses, vs. 20% for those with VL>50. Multivariable analysis (Table) identified those decreased with QL negative perceptions about having HIV, and cigarette smokers, as having higher odds of non-adherence. Anxiety/depression, NP2-6, CDC C diagnosis, alcohol drugs, and having transferred to adult care did not predict adherence.

Results: time on 2nd line ART, mean (SD); range months was 19.4 (6.0); (8.8 - 29.8) months.

<table>
<thead>
<tr>
<th>Variable</th>
<th>SC (n=15)</th>
<th>mDAART (n=18)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD) in years</td>
<td>16.0 (1.5)</td>
<td>15.6 (1.7)</td>
<td>0.568</td>
</tr>
<tr>
<td>Gender-Female</td>
<td>80%</td>
<td>55.6%</td>
<td>0.339</td>
</tr>
<tr>
<td>Time on 2nd line ART, mean (SD) in months</td>
<td>18.0 (1.5)</td>
<td>19.8 (3.3)</td>
<td>0.151</td>
</tr>
<tr>
<td>Increased self-reported adherence (VAS)</td>
<td>56%</td>
<td>100%</td>
<td>0.026</td>
</tr>
<tr>
<td>Decreased viral load</td>
<td>57%</td>
<td>71%</td>
<td>0.445</td>
</tr>
<tr>
<td>% with re-suppression at 3 months (VL&lt;100 copies/ml)</td>
<td>13.3%</td>
<td>50%</td>
<td>0.0342</td>
</tr>
</tbody>
</table>

(Association between treatment arms with outcome)

Tupeb097
Adherence to antiretroviral treatment (ART) among adolescents in Nairobi County, Kenya

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Background: AIDS is the leading cause of death among adolescents in Africa and the second leading cause of death among adolescents globally. Despite adherence to ART being critical in controlling viral replication, maintaining health and reducing onward viral transmission, there are limited data on ART adherence amongst Adolescents and Youth globally. We undertook a study to examining the factors associated with poor ART adherence among adolescents in Nairobi County.

Methods: The study utilized routinely collected patient-level data for antiretroviral treatment (ART)-naïve HIV-infected patients, aged 10-24 years. The total sample of 1800 adolescents had been enrolled in care between 2006-2015 at 16 Health Facilities in Nairobi. The dependent variable was adherence to HAART. Less than 95% adherence was considered “poor”. Chi square tests and logistic regression analysis was used to examine the relationship between explanatory variables (Socio-demographic and Clinical and Immunological) and adherence to ART.

Results: The median age at enrollment was 20.9 (IQR: 18.5, 22.6). Females comprised of 81.6% of the sample. On bivariate analysis, youth on ART for more than 1 year comprised of significantly higher proportion of those with poor adherence compared to good adherence (p = 0.028). Clients with WHO staging 3 or 4 also comprised of significantly higher proportions of poor compared to good adherence (p < 0.001). The logistic model found poor adherence was trending towards association with: age (OR=2.73); having a higher CD4 (1.03) having a longer duration on ART >1 year (OR=1.73), lower WHO stage (OR=5.36); ever using a family planning method (OR=3.13); and longer duration of time between HIV testing and ART start (OR=2.02).

Conclusions: This study suggest the importance for health facilities and HIV youth-centered organization to address: 1) age-specific challenges of adherence; 2) longer duration on ART, and 3) sexual behavior.

The first step toward addressing the problem of non-adherence is to accurately identify patients whose risk is sufficient to undermine clinical outcomes (viral suppression). Further research from the program data will assist in obtaining a better understanding of the etiology of poor adherence and to design effective intervention to improve adherence in Kenya.
**TUPE0099**

**THE ROLE OF APOL1 VARIANTS IN THE DEVELOPMENT OF FOCAL SEGMENTAL GLOMERULOSCLEROSIS IN SOUTH AFRICAN CHILDREN WITH IDIOPATHIC AND HIV-RELATED NEPHROTIC SYNDROME**


1 University of KwaZulu Natal, Paediatrics and Child Health, Durban, South Africa, 2University of KwaZulu Natal, Public Health Medicine, Durban, South Africa, 3Albert Luthuli Central Hospital, Paediatric and Child Health, Durban, South Africa, 4University of KwaZulu Natal, Occupational and Environmental Health, Durban, South Africa, 5University of KwaZulu Natal, Optics and Imaging Center, Durban, South Africa, 6National Cancer Institute, Centre for Cancer Research, Frederick, United States

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**Background:** Kidney disease is more frequent and its advancement to end-stage kidney disease occurs more rapidly among patients of African ancestry compared to other racial groups. Coding variants with the APOL1 gene are strongly associated with kidney diseases in patients of African ancestry. This study aims to determine the role of genetic variants at the APOL1 locus in the development of focal segmental glomerulosclerosis (FSGS) in South African children with idiopathic and HIV-related nephrotic syndrome.

**Methods:** Ethical approval was obtained from the Biomedical Research Ethics Committee, University of KwaZulu Natal. Patient recruitment was conducted at Inkosi Albert Luthuli Central Hospital and King Edward VIII Hospital, KwaZulu Natal South Africa. The study population consisted of 163 Black South African children (ages 0-16yrs) with biopsy proven idiopathic FSGS (n=56), HIV associated nephrotic syndrome (n=14), patients without nephrotic syndrome or other renal disease (n=76) and HIV-1 infected patients without nephrotic syndrome or other renal disease (n=17). We genotyped three SNPs rs73885319, rs60910145 and rs71785313 utilizing a Taqman pre-designed genotyping assay.

**Results:** Our results demonstrated no significant association with the APOL1 rs73885319 risk variant across the study groups. A majority of the HIV FSGS patients (10/14 or 71.4%) showed no presence of the APOL1 G1 and G2 risk alleles. Fifty-three percent of patients with idiopathic FSGS (HIV) showed no presence of the APOL1 G1 and G2 risk alleles. In the HIV FSGS patients, G1 risk allele frequencies were 2/14 or 14% whilst G2 deletion was 2/14 or 14%. In the idiopathic FSGS group, the odds of carrying two copies of G1 and/or G2 risk alleles was 2.4 (95%CI 0.26 to 30, p=0.38) and Inf (0.03, inf <0.05) for the HIV with FSGS in a recessive model.

**Conclusions:** This novel study demonstrates no association between the APOL1 risk variants and biopsy proven HIV associated FSGS and idiopathic FSGS in paediatric Black South African population within the KwaZulu-Natal region of South Africa.
to the vaccine (responders) in the UVL and the non-UVL groups, respectively, p<0.01. The median age was 12.5 years for the non-responders group and 12 for the responders, p=0.14. 53 (57%) were female in the responders group and 33 (50%) in non-responders, p=0.52. Among the non-responders the median of the CD4 cells percent was 26% in the non-responders group and 29% in the responders, p=0.01. Factors associated with protective antibody concentration were: maintenance of UVL through study (OR=6.1, 95%CI=1.7-14.9) and higher CD4 cells percent at the study entry (OR=1.1, 95%CI=1.0-1.2).

Conclusions: Although the CD4 cell percent is an important variable associated with immunization response, long-term maintenance of undetectable viral load must also be considered when planning immunization of HIV infected children.

**TUPEB 101**

**CHANGE IN LEVEL OF ACTIVITY AND PARTICIPATION IN CHILDREN WITH HIV ENCEPHALOPATHY AND BILATERAL LOWER LIMB SPASTICITY COMPARED TO CHILDREN WITH CEREBRAL PALSY: A ONE YEAR FOLLOW-UP STUDY**

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**Background:** Level of daily activity and participation in children with HIV encephalopathy (HIVE) and bilateral lower limb (BLL) spasticity is unclear, creating uncertainty in the management of secondary abnormalities. Should these children receive the same surgical interventions as children with BLL spasticity due to Cerebral Palsy (CP)? The first aim of the study was to investigate change in level of activity and participation over one year in children with BLL spasticity due to HIVE and due to CP. A secondary aim was to compare the magnitude of the change between children with HIVE and with CP.

**Methods:** This one year follow-up study (1.1 ± 0.2 years) was based on 16 children with BLL spasticity due to HIVE (8.8 ± 2.2 years, 10 girls) and 8 children with BLL spasticity due to CP (8.7 ± 2.0 years, 3 girls), who were recruited in state hospitals in Cape Town, South Africa. The Computer-Adapted Pediatric Evaluation of Disabilities Inventory (PEDI-CAT) was used to determine the level of activity (Activity, Mobility and Social/Cognitive domains) and participation (Responsibility domain). A Wilcoxon test was used to address aim 1, and a Mann-Whitney test for aim 2.

**Results:** HIVE and CP groups both showed a significant increase in score for the Activities, Mobility and Social/Cognitive domains (p<0.01) with no significant change in Responsibility domain score (p=0.84). In addition, there was no significant difference in the median change in score over 1 year between the HIVE and CP groups for any of the PEDI-CAT domains (p>0.05) (Table 1).

![Figure 1. Change in PEDI-CAT scores between baseline and one year follow-up study for Activity, Mobility, Social/Cognitive and Responsibility domains](image)

**Conclusions:** These findings suggest little change in participation over time, while level of daily activity in the HIVE and CP group improved with similar magnitude. Although the changes are statistically significant, the clinical significance is unclear. More research is needed to provide evidence-based guidelines for surgical interventions in this HIVE population.

**TUPEB 102**

**A HOSPITAL BASED CROSS-SECTIONAL OBSERVATIONAL STUDY OF COGNITIVE, ADAPTIVE AND BEHAVIOR PROFILES OF 2-9 YEAR OLD HIV-INFECTED AND HIV-CONTROLLED CHILDREN**

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**Background:** This study aimed to compare cognitive, adaptive and behavior profiles of HIV infected and HIV affected children aged 2-9 years and to evaluate the influence of clinical and environmental factors on their profile. The profiles of HIV infected and affected children in the preschool age (2-5 years) and school age (5-9 years) were also compared.

**Methods:** Fifty HIV infected, 25 HIV affected and 25 presumably unaffected 2-9 year old children were enrolled excluding children with known neurodevelopmental disorders. Parents were administered Developmental Profile (DFP), Vineland Adaptive Behavior Scale (VABS-2) and Child Behavior Checklist (CBCL) for assessing cognitive function, adaptive function and behavioral profile respectively. Primary outcomes included the number of children with significant cognitive or adaptive impairment or maladaptive behavior. Inter-group mean scores were compared with unpaired t test and correlation using regression analyses. Strength of the association between primary outcome variables and combinations of clinical and environmental variables was derived by Multiple Correlation Coefficient (R).

**Results:** Significant cognitive impairment was observed in 76% HIV infected, 64% HIV affected and 24% controls. Significant adaptive impairment was observed only in 24% HIV infected and 8% HIV infected children. Mean General Developmental Scores (GDS) and Mean Adaptive Composite scores (ABC) was significantly lower for HIV infected than HIV affected and controls. Maladaptive behavior was not found in any group.

<table>
<thead>
<tr>
<th>Primary Outcome Variable</th>
<th>HIV infected (n=50)</th>
<th>HIV affected (n=25)</th>
<th>controls (n=25)</th>
<th>p value (1 vs 2)</th>
<th>p value (1 vs 3)</th>
<th>p value (2 vs 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDS (MEAN±SD)</td>
<td>59.2±16.9</td>
<td>70.1±13.4</td>
<td>77.3±13.4</td>
<td>0.007</td>
<td>0.0001</td>
<td>0.043</td>
</tr>
<tr>
<td>ABC (MEAN±SD)</td>
<td>75.2±18.9</td>
<td>82.4±9.1</td>
<td>85.3±7.3</td>
<td>0.005</td>
<td>0.0001</td>
<td>0.224</td>
</tr>
<tr>
<td>T SCORES (MEAN±SD)</td>
<td>29.2±6.0</td>
<td>25.9±1.7</td>
<td>26.6±1.7</td>
<td>0.011</td>
<td>0.040</td>
<td>0.203</td>
</tr>
</tbody>
</table>

**TUPEB 103**

**PREVALENCE OF HIV AND PRE-CERVICAL CANCER CO-MORBIDITY IN WOMEN UNDER 25 YEARS OF AGE COMPARED TO WOMEN OVER 25 YEARS OF AGE: LESSONS FROM ZAMBIA**

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**Background:** Zambia has one of the highest HIV prevalence rates in Sub-Saharan Africa at 13%. The prevalence rate among women is 15% compared to men at 11%. Zambia also has the world’s fourth highest cervical cancer incidence rate at 58.0 per 100,000. National cervical cancer guidelines recommend screening for women 25 to 59 years old. However in countries with generalized HIV epidemics like Zambia, the World Health Organization recommends screening HIV positive and sexually active young women and girls below age 25.
TUPE105

A CASE REPORT: IRIS-LIKE PRESENTATION OF BACILLARY ANGIOMATOSIS IN A HIV-INFECTED CHILD IN THE SOUTHERN HIGHLANDS ZONE OF TANZANIA

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Background: Bacillary angiomatosis (BA) is an opportunistic gram-negative infection occurring primarily in immunocompromised individuals, though rarely seen in children, and often confused with Kaposi sarcoma (KS). Worsening of BA during immune reconstitution inflammatory syndrome (IRIS) after initiation of ART is not well described in children. We report a case of likely BA IRIS in a HIV-infected child.

Methods: Retrospective chart review. Full consent was obtained from patient and family.

Results: A 12 year old HIV-infected boy with severe malnutrition was referred to the Mbeya CDF for treatment of widespread sores and fungating lesions. Seven months prior, he was diagnosed with HIV and started on ART, baseline CD4 of 76. His lesions began one month after ART initiation and progressively worsened. He had multiple admissions and courses of antibiotics without improvement prior to referral, and was referred for concern of possible KS.

The patient was admitted and skin biopsy done. A clinical diagnosis of BA was favored, and empiric treatment with doxycycline 100mg BD was started. Chemotherapy for KS was withheld. Imaging, spuas for geneXpert and smear, and chemistries all were normal. Ural load was undetectable. CBC showed severe anemia (Hb of 4.0) requiring blood transfusion. Biopsy results showed histology consistent with BA and bacilli seen with Warthin-Starry staining. Following doxycycline and malnutrition care, the patient made remarkable improvement of his lesions and overall condition.

Author Index

Background:

Tuberculosis is a major opportunistic infection with specific diagnostic and treatment challenges in HIV-infected children. We studied mortality and its determinants in antiretroviral treatment (ART)-naive HIV-infected children presenting a suspicion of tuberculosis.

Methods:

From April 2011 to May 2014, HIV-infected children aged ≤13 years with a suspicion of tuberculosis were enrolled in Pediatric HIV clinics in Burkina Faso, Cambodia, Cameroon, and Vietnam, and followed for 6 months in the ANRS 12229 PANTHRHER cohort. After tuberculosis diagnostic procedures, ART and tuberculosis treatments were initiated following national recommendations. We assessed mortality rates and identified associated factors using Cox proportional hazard models.

Results:

We enrolled 267 ART-naive children in the cohort (138 (51.2%) male) with the following baseline characteristics [all median (IQR)]: age 6.2 (2.3 - 9.1) years, weight-for-age Z score < 2.5 (-3.6 to -1.9), CD4% 9.0 (2.0 - 18.0), aspartate aminotransferase (AST) 48 (36 - 83) UI/L. During the study, 152 (56.9%) children started tuberculosis treatment after a median time of 7 (IQR: 5 - 11) days, and 216 (80.9%) initiated ART after a median time of 24.5 (14 - 41) days. Overall, 52 (19.5%) children died; 28 before and 24 after ART initiation. Mortality rates were 92.6 (95%CI 62.8 - 131.8) and 29.6 (95%CI 19.4 - 43.3) deaths per 100 Person-Years before and after ART initiation, respectively. In multivariate analysis, factors significantly associated with overall mortality were, as expected, an age < 2 years [Hazard Ratio (HR) 3.30; 95%CI 1.21 - 8.98], CD4 < 10% (HR 2.39; 95%CI 1.13 - 5.04), culture-confirmed tuberculosis (HR 2.77; 95%CI 1.27 to 6.06), millary radiographic patterns (HR 4.25; 95%CI 1.66 - 10.87), and more surprisingly, elevated baseline AST above 2.5 and SULIN (HR 3.68; 95%CI 1.49 - 9.11) and 3.78 (95%CI 1.23 - 11.60), respectively. Young age, low CD4%, culture-confirmed tuberculosis, and millary were associated with early mortality before ART; elevated AST was the only factor independently associated with mortality on ART.

Conclusions: Mortality remains high in the first 6 months following suspicion of tuberculosis in ART-naive children, especially before ART introduction. Susception of tuberculosis should not postpone initiation of ART in children with very low CD4 count.
Conclusions: We describe a case that supports the diagnosis of BA IRIS in a HIV-infected child that was successfully treated with doxycycline. While a systemic disease, BA frequently presents as lesions in cutaneous or subcutaneous tissues that can mimic KS - as in our patient - and clinicians must keep a high index of suspicion for BA in immunocompromised patients with unusual skin lesions not responding to standard treatments, particularly in the context of immune restoration.

HIV-EXPOSED UNINFECTED CHILDREN (INCLUDING EFFECTS OF ART EXPOSURE DURING PREGNANCY)

**TUPEB 106**

MULTIMODAL NEUROIMAGING DIFFERENCES RELATED TO HIV/ART EXPOSURE IN 7-YEAR-OLD SOUTH AFRICAN CHILDREN

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Backround: A result of the high success of PMTCT programs in South Africa is a burgeoning population of HIV-exposed, uninfected (HEU) children. The long-term effects of exposure to ART/HIV in utero (and during breast feeding) are still relatively unknown, and multimodal magnetic resonance imaging (MRI) can help quantify the possible long-term effects of ART/HIV exposure on neurodevelopment.

We present significant group differences between measures of brain structure, function and metabolism in a cohort of HEU and HIV-unexposed, uninfected (HU) children. The long-term effects of ART/HIV exposure during pregnancy (and subsequent breastfeeding) will be discussed.

Methods: Fifty-one 7-year-old children were scanned (23 Female; mean ± sd: 7.2 ± 0.1; 9 Cape Coloured/42 Xhosa; 23 HEU/28 HU) in an ongoing longitudinal study on a 3T Allegra Scanner (Siemens, Erlangen, Germany) in Cape Town, South Africa. HEU children were exposed to treatment for PMTCT.

The protocol included structural MRI, single voxel 1H magnetic resonance spectros copy (MRS), diffusion tensor imaging (DTI), and resting state functional MRI (RS-FMRI). Specific exclusion criteria were applied to each modality to ensure quality data. Group comparisons between HEU and HU children were performed. Statistical analyses included gender and ethnicity confounds.

Results: Compared to HU children, we found that HEU children had significantly:

1. Higher mean local gyrification indices (LGIs) (p < 0.05) in the left precentral region,
2. Higher mean choline levels (p < 0.02) and lower mean NAA/Creatine ratios (p < 0.02) in the midfrontal gray matter (MFGM),
3. Higher mean connectivity (p < 0.05) from seeds within the default mode, executive control, motor, salience networks, and
4. Higher FA (p < 0.0005) and lower MD (p < 0.0001) in bilateral corticospinal tract clusters (figure 1).

Conclusions: Significant differences between HEU and HU children across all neuroimaging modalities suggest differences in maturation throughout the brain related to HIV/ART exposure - involving cortical folding, localized metabolism, numerous functional networks and white matter microstructure properties.

**TUPEB 107**

INCREASED RISK OF MORBIDITY/MORTALITY AMONG FORMULA FED HIV-EXPOSED UNINFECTED INFANTS IN SOCIOECONOMICALLY CHALLENGED HOUSEHOLDS IN BOTSWANA: FINDINGS FROM THE MPEPU STUDY

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Background: A South African observational study, conducted when policy promoted HIV-infected maternal infant feeding choice based upon formula feeding acceptability, feasibility, affordability, sustainability, and safety, identified >3-fold increased mortality risk among HIV-exposed formula fed infants in households without piped water, electricity, or gas for fuel, compared with breastfed infants. We sought to determine the applicability of these findings in Botswana, where the prevention of mother-to-child HIV transmission program promotes exclusive formula feeding for all HIV-exposed uninfected (HEU) infants.

Methods: Demographic and health outcomes data from the Mpepu study, a Botswana-based randomized double-blinded clinical trial investigating prophylactic cotrimoxazole as a means of reducing mortality among HEU infants, were used to quantify differences in the combined end point of hospitalizations and mortality between breastfed and formula fed HEU infants residing in households without piped water, electricity, or gas for fuel. Per Botswana guidelines, infant feeding was according to maternal choice, with free formula provided by the Botswana government for mothers choosing to formula feed.

Results: A total of 680 (21%) of 3,164 Mpepu enrolled infants resided in households without piped water, electricity or gas for fuel source, 552 (81%) formula fed and 128 (19%) breastfed. Formula fed infants experienced a higher prevalence of hospitalization or death in the first six months of life (10.0% versus 3.9%; p = 0.04). In multivariate analysis including infant feeding practice and randomized treatment, formula feeding was associated with increased odds of hospitalization or death in the first six months of life (OR 2.73; 95% CI 1.07-6.96; p = 0.04), but there was no benefit of Cotrimoxazole prophylaxis (OR 0.87; 95% CI 0.57-1.35; p = 0.93).

Conclusions: Formula fed HEU infants residing in socioeconomically challenged households in Botswana experienced significantly higher hospitalizations or mortality through 6 months, supporting the South African study’s generalizability. Infants in our population were confirmed HIV-uninfected, and morbidity and mortality rates were low in the cohort as a whole, highlighting the excess risk associated with formula feeding even in regions of Africa where formula feeding may currently be considered a safe option.

**TUPEB 108**

GROWTH PATTERNS OF AFRICAN BREASTFED CHILDREN EXPOSED TO MATERNAL COMBINATION ANTIRETROVIRALS (cART) PRE AND POSTNATALLY

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Background: Prevention of mother-to-child transmission of HIV infection and normal growth in HIV-exposed infants is a multidimensional challenge in Sub-Saharan Africa. The DREAM programme provides cART under Option B Plus since 2012. Breastfeeding to 12 months is supported through health education and food sup-
Implementation with growth and health monitoring until 18 months. Data on growth parameters of children exposed to maternal perinatal ART to 12 months are presented and compared to a cohort breastfed for 6 months.

**Methods:** Over a two year period, HIV-exposed infants were followed prospectively with weight and length measured and weight-for-age, height-for-age, and weight-for-height Z-scores (WAZ, LAZ, W1Z) calculated at various time points through the WHO Anthro software. Retention in the program was reinforced by peer to peer and health worker counselling. Statistical analysis was performed using IBM SPSS software.

**Results:** Growth assessment data was collected from 3807 children enrolled in Mozambique (n=2305) and Malawi (n=1602) from 01/2012 to 12/2013. The figure shows Z-scores for pediatric populations from 2015 and 2009 (breastfed for 12 and 6 months respectively) and 2015 data dichotomized according to rural (URR) or urban (URB) environments from 1 to 18 months. The 2015 cohort had the best growth parameters especially at 12 and 18 months. Growth failure observed in the 2009 cohort at 6-12 months was greatly reduced in the 2015 cohort. Growth retardation in the 2015 rural cohort was significantly higher in comparison to the 2015 urban population. Binary logistic regression identified 3 independent predictors of malnutrition: W1Z < 2 z-scores at 18 months. HIV: + status (HR: 5.5 p < 0.0001), rural environment (HR:2.3 p < 0.0001) and number of clinical events (HR:1.6 p < 0.0003).

**Conclusions:** Provision of maternal CART pre and postnatally with 12 months of breastfeeding plus careful weaning practices and food supplementation favorably impact infant growth and development.

**ARV MANAGEMENT STRATEGIES: CHILDREN AND ADOLESCENTS COHORT STUDIES**

**TUPEB109**

**TRENDS IN GLOBAL PEDIATRIC HIV PROGRAMMATIC CAPACITY AMONG SITES OF THE INTERNATIONAL EPIDEMIOLOGIC DATABASES TO EVALUATE AIDS (IeDEA) CONSORTIUM**


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**Abstract:**

**Presenting author email:** jeannie.collins@ucl.ac.uk

**Background:** Global pediatric HIV care sites push to expand access to care and implement recommended guidelines. We sought to describe trends in site capacity and comprehensiveness of services among global pediatric HIV care programs between 2009 and 2014.

**Methods:** In 2009, we assessed available services at sites caring for pediatric patients in 6 global regions of the International Epidemiologic Database to Evaluate AIDS (IeDEA) consortium. Between September 2014 and January 2015, we repeated this assessment, using a web-based survey across IeDEA regions. The surveys asked about facility characteristics and capacity to deliver WHO-recommended pediatric HIV care, including antiretroviral therapy (ART), care for other infections, nutrition, and health worker counseling. Statistical analysis was performed using IBM SPSS software.

**Results:** Of 3,510 children starting ART, 2210 (63%) had VS for z-score > 24 months: 47% male, 2% perinatally infected. At ART initiation, median (IQR) age was 6.3 years (2.1, 11.0), CD4+ 16% (8, 24), 15% and 55% were WHO advanced and severe immunological stage.

**Conclusions:** This global survey demonstrates significant gains in the comprehensiveness of services available for HIV-exposed children worldwide, while identifying gaps to target resources.
health stage, respectively. PIR was observed in 13% (248/1863), 7% (102/1437) and 4% (50/1155) of patients at 1-, 2-, and 3-years of sustained VS. PIR was strongly associated with older age and worse immunological stage at ART start (Table 1). Among patients with VS for ≥1 year, there were 4 deaths and 50 CDC C events (2 and 15 among PIRs, respectively). The rate of clinical events was 1.94 (95% CI 1.20, 3.12) per 100 person-years among PIRs versus 0.39 (0.27, 0.56) among responders (WHO immunological stage “none”), p<0.0001.

Conclusions: PIR despite VS was relatively rare in children but was associated with significantly increased risk of AIDS/death as compared to immune-responders. Predictors of PIR include older age and lower CD4 at ART start, supporting recommendations for immediate ART in all children.

### Risk Factors for Poor Immune Response in Children with Viral Suppression

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>aOR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of HIV infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perinatal</td>
<td>1.0</td>
<td>0.916</td>
</tr>
<tr>
<td>Other</td>
<td>1.9 (1.3-1.3)</td>
<td></td>
</tr>
<tr>
<td>Age at ART initiation, (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;5</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>5–&lt;10</td>
<td>1.6 (1.2-2.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>10–&lt;15</td>
<td>2.1 (1.4-3.1)</td>
<td></td>
</tr>
<tr>
<td>≥15</td>
<td>6.3 (4.3-11.4)</td>
<td></td>
</tr>
<tr>
<td>WHO immune stage at ART initiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>1.0 (0.4-6.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Advanced</td>
<td>6.1 (2.1-18.1)</td>
<td></td>
</tr>
<tr>
<td>Severe</td>
<td>11.7 (4.3-32.1)</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B co-infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2.5 (1.4-4.2)</td>
<td>0.004</td>
</tr>
<tr>
<td>Cohort region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK / Ireland</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Russia / Ukraine</td>
<td>0.8 (0.4-1.8)</td>
<td></td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>1.0 (0.7-1.5)</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>2.1 (1.5-3.0)</td>
<td>&lt;0.001</td>
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</table>

[Table. Factors associated with poor immune response in children with viral suppression ≥1 year]

### TPUEB111

**The Treatment Cascade of Children with Unsuppressed Viral Load: a Reality Check in Rural Lesotho, Southern Africa**

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**Background:** Viral load (VL) monitoring for children on anti-retroviral therapy (ART) allows early recognition and management of treatment failure. However, there is currently few data on outcomes of children falling first-line ART in resource-limited settings. This registered prospective observational study (CART-1 study; clinical trials-ID: NCT02126696) assessed clinical and virological outcomes of children with unsuppressed VL in 10 rural, nurse-led clinics in Lesotho, Southern Africa.

**Methods:** Children < 16 years, on first-line ART ≥6 months with unsuppressed VL (>100 copies/ml) at first measurement in May/June 2014 were included. As per guidelines children with unsuppressed VL received enhanced adherence counselling (EAC) and a follow-up VL after three months. Those with sustained unsuppressed VL were considered eligible for switch to second-line. In November/December 2015 (18 months later) their outcomes were assessed.

**Results:** Of 191 children receiving a first-time VL, 53 (28%) had unsuppressed vi-remia. The care-cascade for these 53 children is displayed in figure 1. In December 2015 (92%) received a follow-up VL 3 months after EAC. At this follow-up VL, 36 (73%) remained unsuppressed, 28 (78%) of these 36 were switched to second-line. Reasons for not switching were: Loss to follow-up or procedural errors at health facilities. Of the 36 children eligible for second-line, 9 (25%) were switched, retained, and virally suppressed at 18 months of follow-up. Socio-economic characteristics (age, sex, orphanhood, household-wealth, self-reported drug-adherence) were not associated with outcomes after the first measurement of unsuppressed VL.

**Conclusion:** Approximately a third of children undergoing routine VL testing 6 months after initiation of antiretroviral therapy (ART) and yearly thereafter was rolled out in clinics throughout western Kenya. This nested case-control study was conducted among HIV-infected children < 15 years old who underwent routine VL testing June 2014-May 2015. A random sample of 299 children with approximately 1 case [VL ≥1000 copies (cp) per milliliter (ml)] per every 2 controls (VL < 1000 cp/ml) was chosen from five Family AIDS Care & Education Services (FACES)-supported facilities. Chart abstraction was performed to determine demographic and clinical factors associated with failure to suppress. Logistic regression analysis was used to assess factors associated with failure to suppress VL.

**Results:** Among all children undergoing routine VL testing, 63% (748/1190) were virologically suppressed. Of the 98 unsuppressed cases and 201 controls, the majority (72%) were between ages 3 and 10 years old at time of VL testing. Baseline WHO stage and CD4, and time since ART initiation were not associated with failure to suppress. In multivariable analysis, unsuppressed children were more likely to be male [adjusted Odds Ratio (aOR)=2.1, 95% Confidence Interval (CI): 1.2-3.5] and be on lopinavir as a second line regimen (aOR=5.3, 95% CI: 2.4-11.8) (Table 1). Additionally, children with a history of tuberculosis (TB) were more likely to suppress than those without TB (aOR=0.4, 95% CI: 0.2-0.9).

**Conclusions:** Approximately a third of children undergoing routine VL testing failed to suppress. Traditional risk factors for pediatric treatment failure including baseline CD4 and clinical stage were not shown to have a significant effect on VL, highlighting the importance of routine VL testing to evaluate treatment efficacy. Reasons for gender differences in suppression and surprisingly higher rates of VL suppression amongst children with history of TB require further exploration. Additional effort will be required in order to reach the final “90” among children in Kenya.
Background: Overwhelmed, under-trained medical staff working in resource-limited settings need efficient resources to help support families during the process of HIV disclosure to children. This study evaluated providers’ perceptions of using tablet computers for disclosure-related counseling with HIV-infected children and their caregivers in western Kenya.

Methods: This study used a mixed-methods design at three large, rural HIV clinics in western Kenya (Bumala, Busia, and Port Victoria) within Academic Model Providing Access to Healthcare (AMPATH), Eldoret, Kenya. ‘Moi University, College of Health Sciences, School of Medicine, Department of Child Health and Paediatrics, Eldoret, Kenya,’ ‘Indiana University School of Medicine, Indianapolis, United States.’

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### Tupe113

**Table-Based Resources for Disclosure Counseling for HIV-Infected Adolescents and Their Families in Kenya: A Pilot Study of Perspectives from Providers**

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Tuesday 19 July
Poster Exhibition

**TUPE114**

**ACHIEVING FIRST 90 (90:90:90) GOAL IN ADOLESCENT/YOUNG ADULTS: ADOLESCENT PEER-LED COMMUNITY OUTREACH AND KNOWLEDGE DISSEMINATION: THE WAY TO GO**

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**Background:** The University of Nairobi/Manitoba STI/HIV research center started in 1986, enrolling and following up mothers and their newborn babies from Pumwani Maternity Hospital. HIV testing, care, and treatment is one of the services offered. In 2006 the Pumwani Clinic opened up to the general population and offers HIV prevention, care and treatment to all eligible. Recently a gap of not reaching many adolescents was identified and measures were put in place to collect baseline data on HIV prevention knowledge, attitude and practice among the adolescents from the community.

**Methods:** A cross-sectional KAP study that utilized mixed methods of data collection was carried out for three months on adolescents/young adults aged between 15-24 years. Ten peer adolescents were trained and sent into the community to refer their peers to the clinic. HIV testing was offered and data collected on HIV prevention knowledge, attitude, and practice.

**Results:** 1107 adolescents/young adults were reached 43.9% (486) were male and 56.1% (621) female. 13.0% (144) were married. Only 49.7% (550) had tested for HIV before while 100% reported being sexually active. HIV prevalence in this group was 5.9% (65) which is higher than the Kenyan national average. 25% (277) had sex debut between ages 12-14 years, 60.7% (672) at age 15-17 years while 14.3% (159) at age 18-19 years. 46.5% (515) reported condom use of which consistent condom use was 54.3% (280). Correct condom use demonstration was achieved by 3.4% (38). Only 19.1% (199) of the HIV negative had knowledge on PrEP, while 68.2% (775) were willing to use PrEP after being taught on PrEP. 11.7% (122) had knowledge on PEP while 98% (1084) were willing to use PEP after sensitization.

**Conclusions:** Despite a high level of early onset of sexual activity in this adolescent population, the HIV testing rate, PEP and PrEP knowledge is quite low, with an alarmingly low level of basic knowledge about condom use. Use of peer led initiative in reaching out to them may reduce the HIV testing gap and enhance HIV prevention knowledge hence, achieving the first 90 goal.

**TUPE115**

**SIMILAR LEVELS OF SEXUAL RISK BEHAVIOUR AMONG PERINATALLY HIV-INFECTED AND HIV-AFFECTED ADOLESCENTS, AND THE GENERAL POPULATION, IN ENGLAND**

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**Background:** Perinatally HIV-infected (PHIV+) adolescents are surviving into adulthood, and gaining insight into sexual behaviour and the prevalence and predictors of HIV transmission is important. Previous studies report PHIV+ adolescents having less sex than their HIV-negative (HIV-) peers. Here we report findings for PHIV+ and HIV- youth in England.

**Methods:** 296 PHIV+ aged 13-21 years and 96 HIV- affected (45 siblings of PHIV+) adolescents aged 13-23 years were recruited to the AALPHI cohort in 2013-15. Computer-assisted self-interview questionnaires collected data on sexual activity (including type of sex, number of partners in last year and condom use), alcohol and recreational drug use. NPZ-6 scores were calculated for neurocognitive function, and IDACI scores measured household deprivation. T-tests compared means, and χ² proportions; logistic regression examined predictors of ever having sex.

**Results:** 120(41%) PHIV+ and 31(32%) HIV- were male, 254(86%) and 70(73%) were black, median age 16(IQR 15,18) and 16(14,18) years respectively. 77(26%) PHIV+ had a previous CDC C diagnosis. 237(80%) PHIV+ and 68(71%) HIV- were in full-time education, to increase their own knowledge and comfort with disclosure. No technical issues were reported.

**Conclusions**: Tablet computers with resources for disclosure are an acceptable and potentially effective resource to help providers support families through the disclosure process.

**Monday 20 July**

**Late Breaker Posters**

**Author Index**
education, for 101(36%) and 22(23%) one/both parents had died, 122(42%) and 43(46%) had ever drunk alcohol and 43(15%) and 26(29%) had ever taken recreational drugs. 90(30%) PHIV+ and 37(38%) HIV- had ever had sex; median number of partners in the last year was 3[1,6] and 4[1,6] respectively. 61(68%) PHIV+ and 14(38%) HIV-reported always using condoms (p=0.005). Multivariable analysis (Table) identified older age, male sex, ever had alcohol and/or drugs and higher deprivation score, with ever having sex, but not HIV status.

### Variable | Adjusted Odds Ratio (95% Confidence interval) | P value
--- | --- | ---
HIV status (ref: HIV-) | PHIV+ no CDC C | 1.05 (0.48, 2.28) | 0.994
PHIV+ with CDC C | 1.09 (0.43, 2.75) | <0.001
Age at interview | Per year increase | 1.46 (1.27, 1.68) | 0.027
Sex (ref: Male) | Female | 0.50 (0.27, 0.92) | 0.027
Ever had alcohol (ref: No) | Yes | 2.68 (1.36, 5.28) | 0.004
Ever taken drugs (ref: No) | Yes | 3.54 (1.63, 7.69) | 0.001
Household deprivation | Per 10 point increase | 1.18 (1.00, 1.41) | 0.053

### Conclusions:
Levels of sexual activity were similar among PHIV+ and HIV- and comparable to national normative data (Natsal-3). Levels of reported condom use were significantly higher in PHIV+ than HIV-, contrary to previous research suggesting higher risky sexual behaviour in PHIV+; findings underline the need for increased sexual health education for all adolescents.

### MENTAL HEALTH AND NEURO-COGNITION IN CHILDREN AND ADOLESCENTS

#### TUPEB116

A DIFFUSION TENSOR IMAGING AND NEUROCOGNITVE STUDY OF ART-NAÏVE AND ART-TREATED CHILDREN IN CAPE TOWN

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### Background:
There are still no diagnostic criteria for a spectrum of neurocognitive disorders (ND) secondary to HIV infection for children. 

### Methods:
A cross-sectional clinical cohort study was initiated in Cape Town, in which 120 participants, including a HIV negative healthy control group for comparison, completed clinical and neurocognitive assessments. HIV infected children were either stable on antiretroviral treatment (ART) for a minimum of 6 months or ART naive, with 30 matched controls using diffusion tensor imaging (DTI) measures. We then used the detailed neurocognitive battery; an assessment of adaptive functioning and the HIV associated neurocognitive disorders (HAND) criteria to identify children with functional cognitive impairments who don’t fit criteria for HIV and would therefore not have been identified otherwise.

### Results:
When comparing HIV+ve children to HIV+ve children DTI found damaged neuronal microstructure in the HIV+ve children. Significant associations were found between failing first line ART regimen, socio-demographic factors, nutritional- and matemalological status, HIV-relevant clinical variables, cognitive functioning and white matter integrity in children stable on ART. Children with a clinical diagnosis of encephalopathy (HIVE) had greater white matter damage when compared ART treated children without encephalopathy. DTI also found significant myelin loss in ART naïve children when compared with ART treated children. Using the criteria for HAND we found that 45.35% of the HIV+ve infected children had a ND. ART naïve slow progressors, who receive limited attention from health care services, as they are thought to be ‘well’, were found to have neurocognitive impairment and white matter microstructural damage. HIV infected children were also more likely to have impaired competence in various domains of functioning.

### Conclusions:
Our findings suggest that children on ART remain at risk for developing CNS disease, and that this risk extends to physically well ARV naïve slow progressors. The HAND criteria were able to identify children with functional cognitive impairments who don’t fit criteria for HIV+ and would therefore not have been identified otherwise.
TUPEB119
MENTAL HEALTH AND VIRAL SUPPRESSION IN A COHORT OF ADOLESCENTS LIVING WITH HIV IN JOHANNESBURG, SOUTH AFRICA

N. West1, S. Schwartz2, C. Hanrahan3, P. Golati-Soyzaphath4, J. Nel5, H. France6, J. Bassett7, S. Bernhardt1, J. Steinig1, L. Mutunga1, A. Van Rie1,6

1Johns Hopkins School of Public Health, Department of Epidemiology, Baltimore, United States, 2WitsKoppen Health and Welfare Centre, Johannesburg, South Africa, 3Stellenbosch University, Department of Infectious Diseases, Johannesburg, South Africa, 4University of Antwerp, Antwerp, Belgium, 5University of North Carolina at Chapel Hill - Gillings School of Global Public Health, Department of Epidemiology, Chapel Hill, United States

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Background: A growing number of adolescents living with HIV are engaged in clinical care, especially in Africa. Little is known about their mental health and its associations with viral suppression.

Methods: We conducted a baseline analysis from a prospective cohort of adolescents (ages 9-19) living with HIV and receiving care at a primary care clinic (Witskoppenn Health and Welfare Center) in Johannesburg, South Africa. Mental health screens for depression were performed using the Children's Depression Inventory-Short (CDI-S10), anxiety using the Revised Manifest Anxiety Scale (RCMAS), and post-traumatic stress using the Child PTSD checklist. Clinical charts were reviewed to collect relevant demographic, clinical, and laboratory data. Multivariate logistic regression was used to identify factors associated with viral suppression (defined as < 5 copies/mL) in adolescents on anti-retroviral therapy (ART) for >90 days.

Results: Between June 2013 and November 2015, 258 adolescents were enrolled. Median age was 11 (range 9-19), 52% were female, and 72% had a deceased parent. Less than half (45%) were fully aware of their HIV status. Almost one-third (29%) reported an event causing post-traumatic stress. Few (7%) met the criteria for depression (CDI-S10 score ≥27), and 6% screened positive for anxiety (RCMAS score ≥10). Adolescents reporting post-traumatic stress had higher rates of anxiety (13% vs. 4%, p<0.011) and depression (14% vs. 4%, p=0.004). Among 191 adolescents on ART with viral load data, 46% were virally suppressed. In multivariate analysis, adolescents were less likely to achieve viral suppression if they reported post-traumatic stress (adjusted OR 0.43, 95% CI 0.18-1.01, p=0.053) or had full disclosure of their HIV status (OR 0.48, 95% CI 0.20-1.15, p=0.101).

Conclusions: This baseline analysis showed that post-traumatic stress occurs frequently in adolescents living with HIV and is associated with poor viral suppres- sion. Furthermore, though the majority of adolescents screened did not meet the criteria for anxiety or depression, rates of both were higher among adolescents who reported post-traumatic stress. Findings suggest that attention to post-traumatic stress is warranted in adolescents living with HIV.

TUPEB120
CROSS-CULTURAL ASSESSMENT OF HIV-ASSOCIATED NEUROCOGNITIVE IMPAIRMENT USING THE KAUFMAN ASSESSMENT BATTERY FOR CHILDREN: A SYSTEMATIC REVIEW

A.S. van Wyk1, T. van de Water1,2, M.J. Boivin3, M.F. Cotton4, K.G.F. Thomas5, 6

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Background: Despite improved efficacy of and, access to combination antiretroviral therapy (cART), HIV-associated neurocognitive impairments (HANI) remain prevalent. Neuropsychological tests that detect HANI in children can help clinicians formulate treatment plans. The Kaufman Assessment Battery for Children (KABC), although developed and standardized in the United States, is used frequently in many different cultures and countries to assess pediatric performance within specific cognitive domains. The purpose was to investigate the cross-cultural utility of the original KABC, and its 2nd edition (KABC-II), in identifying HANI in children.

Methods: Relevant keywords and MeSH terms were included into the PubMed, PsychInfo, EBSCOHost, ProQuest, and Scopus databases, with search limits set from 1983-2015. Two independent reviewers evaluated the retrieved abstracts and manuscripts. Studies eligible for inclusion in the review were those that (a) used the KABC/KABC-II to assess cognitive function in children aged 2-18 years, (b) featured an definition of HANI (e.g., >250 below the mean), (c) compared the performance of HIV+ and HIV- groups, and (d) used a sample excluded from US census on which the instruments were normed. The reviewers evaluated the methodological quality of selected studies independently.

Results: Eight studies comprised the sample of the systematic review. Four except one (a UK-based study) were conducted in Africa. Study samples included cART-naive or clinically stable cART-treated children. All studies reported some form of cognitive impairment in HIV-infected children. Five reported significant between-group differences on KABC/KABC-II subtests tapping the cognitive domain of simultaneous processing (e.g., the Triangles, Rover, and Block Counting subtests); 4 reported the same for sequential processing; 3 did so for learning; and 3 did so for a mental processing index. Two studies highlighted HIV-associated impairments in nonverbal abilities and in planning. Regarding methodological quality, shortcomings included reporting and selection biases.

Conclusions: This systematic review provides evidence for the cross-cultural utility of the KABC/KABC-II (particularly the simultaneous processing subtests) in detecting HANI in HIV-infected children, even those who are clinically stable. Although the current results suggest there is justification for using the KABC/KABC-II in Africa, further investigation is required to explore the instrument's utility in other regions where HIV is also prevalent.

TUPEB121
SUCCESS RATE WITH MRI NEUROIMAGING RESEARCH IN UN-SEDATED YOUNG HIV-INFECTED CHILDREN USING SIMULATION SCAN PREPARATION

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Background: Magnetic resonance neuroimaging (MRI) studies involving children are difficult because participants must remain motionless for extended periods without sedation. We describe the success rate for un-sedated 5- and 7-year-old children on a 3T Alligra MRI (Siemens, Erlangen).

Methods: Children from a neuroimaging sub-study of the Children with HIV Early Antiretroviral Therapy (CHER) trial were scanned at 5 and 7 years. The sample comprised HIV infected (HIV+) and HIV negative (HIV-) including exposed- and unexposed uninfected participants. Children who tolerated a simulation scanner re-
turned for neuroimaging during which the child watched a movie of his/her choice. The hour-long protocol included structural, diffusion tensor, and spectroscopic imaging, with the addition of resting state functional MRI at 7 years. We collected information on image acquisition (those who arrived and provided at least one scan sequence), scanner tolerance (arrived and calm in scanner the entire session), and neuroimaging data usability assessed using FreeSurfer, LCModel, FSL and AFNI software.

The effect of HIV exposure and gender on success rates was explored.

Results: At 5 years, 115 (male 57, HIV+ 73) participated with 139 (male 71, HIV+ 80) at 7 years. The meanSD usable images was 51.3 and 61.2 at 5 and 7 years respectively. Image usability was influenced by HIV status at 5 years (HIV+ 51.3; HIV- 31.1, p<0.0067), and gender at 7 years (girls 611, boys 511.2, p=0.004). Success rates improved significantly in the 102 participants (79%) already participating at 5 years (male 50, HIV+ 73): image acquisition (75% to 94%; p < 0.001), scanner tolerance (20% to 60%; p < 0.001), and full scan data perfectly usable if appointment kept (7% to 21%; p=0.0015).

Conclusions: Success rates of neuroimaging in un-seated young children improved with age. Image usability was higher in HIV+ children, who are potentially more comfortable with medical procedures and thus more tolerant. Although completely successful image acquisition and usability as per protocol is unlikely, a similar average number of useable images are collected at both time points when using the simulation scan preparation. Sample size calculations should consider the challenges of patient withdrawal and distress in young children.

TUPEB123
MENTAL HEALTH AND ASSOCIATED VIROLOGIC OUTCOMES AMONG HIV-INFECTED ADOLESCENTS IN TANZANIA

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Background: Sub-Saharan Africa is home to more than 80% of the estimated 2.1 million HIV-infected adolescents. Despite this HIV burden, few studies have evaluated mental health difficulties (MHD) and associated HIV outcomes. This study aimed to describe MHD and associated HIV outcomes in HIV-positive adolescents in Tanzania.

Methods: This prospective, cross-sectional study enrolled HIV-infected adolescents between 11 to 24 years of age who attend adolescent clinic at KCRC (referral center) or Mawenzi (government hospital) in Moshi, Tanzania. Assessments included: Patient Health Questionnaire (PHQ-9)—depression (cut off ≥10; range (0-27); Strengths and Difficulties Questionnaire (SDQ)—behavioral and emotional symptoms (cut off ≥21; range 0-40); modified UCLA PTSD Reaction Index (PTSD-R)—post traumatic stress symptoms (cut off ≥18; range 0-51). MHD were defined as meeting the threshold criteria on any one of the three mental health measures. Self-reported adherence and a modified Berger Stigma Scale (0-10 questions, cutoff ≥22; range 0-10) were also assessed. HIV-RNA was obtained after questionnaire was completed.

Results: Adolescents from KCRC (n=182) or Mawenzi (n=98) were enrolled. Comorbid data of key variables are reported (Table I). Youth at Mawenzi had significantly more MHD, stigma, and incomplete adherence as compared to KCRC. Univariable regression analysis of the combined cohorts demonstrated a 13% increased odds of MHD per one unit increase in stigma (CI 1.07 - 1.19) and 86% increased odds of MHD for adolescents who self-reported incomplete adherence (CI 1.09 - 3.17). MHD were not statistically associated with virologic failure (≥ 400 copies/mL) for adolescents receiving ART.

Conclusions: Self-reported MHD were considerable among HIV-infected adolescents and were significantly associated with stigma and incomplete adherence. Virologic failure was also prevalent, though did not meet statistical significance. MHD were more prevalent among youth attending the lower income clinic, Mawenzi. Research on innovative mental health interventions to address the needs of this growing HIV-infected adolescent population is urgently needed.
Retention in Care of Adolescents

TUPEB124
High Retention and Viral Suppression Rates in a Dedicated Adolescent-Friendly HIV Clinic in South Africa

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Background: South Africa has the highest burden of HIV-infected youth globally. Adolescents with chronic illness commonly struggle with poor adherence. Studies from resource-rich countries have documented high rates of mortality, loss to follow-up, and virologic failure among HIV-infected adolescents. To overcome these challenges, many HIV clinics have initiated adolescent-friendly services; however, outcomes in these clinics have not been described.

Methods: We performed a retrospective cohort analysis using medical records from 254 perinatally HIV-infected adolescents receiving antiretroviral therapy (ART) at a single clinic in KwaZulu-Natal, South Africa from April 2007 to November 2015. Adolescents could attend either: 1) Saturday teen clinic with dedicated peer support and structured social activities after six months on ART pending availability or remain in 2) standard weekday pediatric clinic. We analyzed records from all perinatally HIV-infected adolescents/young adults aged 13 - 24 attending teen clinic or standard pediatric clinic. We performed a cross-sectional analysis comparing retention in care and viral suppression among adolescents attending each clinic. We calculated descriptive statistics and conducted univariable and multivariable logistic regression models.

Results: Overall, viral suppression among adolescents was 85% (196/231) and retention was 89% (226/254) with retention outcomes in 97%. We found significantly higher retention among adolescents attending teen clinic (97%) versus standard clinic (85%; p=0.005). Multivariable logistic regression adjusting for age at ART initiation, gender, pre-ART CD4, months on ART and tuberculosis history indicated higher retention in adolescents attending teen clinic compared to standard clinic (OR =10.1; p=0.003). We also found higher viral suppression among adolescents attending teen clinic (91%) versus standard clinic (81%; p=0.048). A similar multivariable logistic regression model indicated higher viral suppression in adolescents attending teen clinic compared to standard clinic (OR = 4.13; p=0.004).

Conclusions: Despite lower pre-ART CD4 and older age at initiation, adolescents attending a teen clinic had higher retention in care and viral suppression compared to adolescents attending standard pediatric clinic.

TUPEB125
Impact of a Youth-Targeted HIV Clinic Integrated within a Large Urban Adult Clinic

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Background: In the US, adolescents/young adults make up the largest proportion of new HIV infections and the majority who engage in care do so at adult clinical sites. Youth Living with HIV (YLHV) have worse retention and suppression outcomes than adults. Given these challenges, new models are needed to improve outcomes for YLHV. We evaluated the impact on retention in care of comprehensive youth-targeted care within an adult clinic.

Methods: The Access Care Early (ACE) program for YLHV is integrated within a large adult HIV clinic. Patients 18-30 years qualify for ACE for the following: transfer from pediatric care; newly diagnosed high risk (e.g. mental illness, substance abuse); lack of success in standard adult care. ACE providers have combined internal medicine–pediatrics training and comprehensive care is provided through ACE’s team of social work, nursing, mental health, and youth outreach worker. We performed a retrospective analysis of patients 18-30 years who newly presented to care after June 2012 and compared 1-year retention of those cared for in ACE versus those receiving standard care in the adult clinic. Measures of engagement were 26 month gap in care and minimum of 2 visits ± 90 days apart.

Results: Of the 132 YLHV meeting inclusion criteria, 54 (41%) received care in ACE (24/54 transitioned from pediatric HIV care; 16/24 were perinatally acquired) and 78 (59%) received standard adult care. Demographics were similar, except ACE patients were younger. YLHV in ACE was less likely to have a 6-month gap in care (44% vs. 59%, p=0.10) and more likely to have two appointments ± 90 days apart compared to those receiving standard adult care (83% vs. 69%, p=0.066).

Conclusions: Despite retaining YLHV with significant challenges to retention, YLHV enrolled in the ACE program had a trend toward better retention in care. Further studies of ACE and similar programs may inform development of future interventions to improve the continuum of care in this high-risk population within adult clinics.

[Table 1: Characteristics and retention for YLHV followed in Youth Targeted (ACE) vs. Standard Adult Care]

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Youth Targeted Care</th>
<th>Standard Adult Care</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median (range)</td>
<td>24 (18-29)</td>
<td>26 (20-30)</td>
<td>0.001***</td>
</tr>
<tr>
<td>Male</td>
<td>37 (69%)</td>
<td>63 (81%)</td>
<td>0.106</td>
</tr>
<tr>
<td>Race: Black/White/Hispanic</td>
<td>46 (85%)/50 (91%)/12%</td>
<td>55 (71%)/17% (49%)/10%</td>
<td>0.28</td>
</tr>
<tr>
<td>6 month gap</td>
<td>24 (44%)</td>
<td>46 (59%)</td>
<td>0.100</td>
</tr>
<tr>
<td>2 visits ±90 days apart</td>
<td>45 (83%)</td>
<td>54 (69%)</td>
<td>0.066</td>
</tr>
</tbody>
</table>

[Table 1: Outcomes of Adolescents Attending Teen Clinic and Standard Clinic]

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Teen Clinic (n=88)</th>
<th>Standard Clinic (n=161)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Suppression</td>
<td>96</td>
<td>91 (0.081)</td>
<td>0.14</td>
</tr>
<tr>
<td>Median age at ART initiation(IQR)</td>
<td>11.0 (9.4 - 12.7)</td>
<td>9.6 (7.6 - 12.2)</td>
<td>0.014</td>
</tr>
<tr>
<td>Male (%)</td>
<td>50 (57%)</td>
<td>82 (49%)</td>
<td>0.260</td>
</tr>
<tr>
<td>Median pre-ART CD4 (IQR)</td>
<td>94 (35-220)</td>
<td>205 (98-345)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Median Months on ART (IQR)</td>
<td>72 (52-92)</td>
<td>58 (27-83)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Tuberculosis History</td>
<td>42 (49%)</td>
<td>92 (65%)</td>
<td>0.243</td>
</tr>
<tr>
<td>Teen Clinic Attendance</td>
<td>10.12 (0.003)</td>
<td>4.13 (0.004)</td>
<td>0.10</td>
</tr>
</tbody>
</table>

[Characteristics and retention for YLHV followed in Youth Targeted (ACE) vs. Standard Adult Care]

TUPEB126
Project REACH: a Facility-Based Peer Support Model Across 20 Facilities in Five Sub-Saharan African Countries

D. Mark1, A. Ngombé1, G. Burford1, N. Renaud1, V. Djimpessi1, E. Tunncliff1, L. Chatane1, J. Monteu2
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Background: AIDS is now the leading cause of death among adolescents (age 10-19 years) in Africa. Emerging evidence suggests that peer-led service delivery models may improve outcomes and health service engagement for adolescents and young people living with HIV (AYPLHV). However, greater evidence is needed for these models to emerge as policy and be implemented at scale with established standards and principles.

Description: Project Re-Engage Adolescents and Children with HIV (REACH) aims to investigate a health facility-based peer support model to improve HIV treatment and care services for and treatment outcomes in children and AYPLHV. The program engages 59 AYPLHV age 18-24 years as peer supporters in 20 health facilities across five Sub-Saharan African countries (Ethiopia, Uganda, Malawi, Côte d’Ivoire and Cameroon). Peer supporters receive monthly stipends, relevant nationally-accredited training and a practical toolkit to prepare them to deliver peer-led psychosocial services, educate and engage communities and provide operational support.

Lessons learned: Project REACH facilities span urban, peri-urban and rural (59%; 24%; 17%) and primary, secondary and tertiary level (35%; 24%; 41%) settings, providing evidence and examples across contexts. Together, these facilities provide HIV treatment and care for 21,523 children and AYPLHV. Since the program’s launch in April 2015, the adolescent patient base at participating facilities has increased by 10%. Facilities have initiated new AYPLHV-supportive services and activities, including home visits (82%); outcomes monitoring (88%); standardised disclosure (71%) and dedicated AYPLHV-friendly visit times (71%). Peer supporters primarily deliver psychosocial support, such as support groups and counseling (80%); conduct home visits and treatment literacy sessions (90%); and perform facility-based task-sharing like basic patient monitoring (50%). 83% of facilities provide peer supporters with employment contracts; 90% conduct performance appraisals and 90% include them in case meetings.

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Tuesday 19 July
Poster Exhibition

Wednesday 20 July
Late Breaker Posters

Thursday 21 July
Author Index

Friday 22 July
Authors' Round Table
Conclusions/Next steps: Health facilities have a central responsibility to provide sustainable services that are responsive to the needs of AVPLHIV within an enabling environment. Project REACH demonstrates the critical role that facility-based providers may play in expanding adolescent treatment access and addressing gaps in AVPLHIV-friendly services. Results show that peer supporters can be assimilated into health facility teams, but true integration will require policy shifts and health systems strengthening.

TRANSITION INTO ADULT CARE

TUPE127
TRANSITIONING HIV-INFECTED CHILDREN INTO ADULT CARE: VOICES OF JAMAICAN ADOLESCENTS AND THEIR HEALTHCARE PROVIDERS

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Background: Successful public access to antiretroviral therapy in resource-limited settings (RSL) has resulted in survival of HIV perinatally-infected children into adulthood by providing adolescent-centered services for their HIV-infected clinic. However, there are few studies or guidelines on transition of care in RSL, where 90% of HIV-infected children reside. We aimed to characterize the current landscape of the transfer process of HIV-infected adolescents from the perspectives of both the adolescents and providers in one such RLS, Jamaica.

Methods: We conducted in-depth semi-structured interviews of 18 HIV-infected adolescents in paediatric care at the University Hospital of the West Indies and 21 health care providers from various clinics across Jamaica. We audiotaped, transcribed, and then organized and coded transcripts using the software ATLAS.ti. We analysed the data using the grounded theory approach.

Results: Five themes emerged:
1. Adolescent patients articulated psychosocial benefits associated with pediatric care. Pediatric clinics were like families who provided care-taking and developmental support in addition to HIV care.
2. Both adolescent patients and pediatric providers felt the quality of care adolescents received in the pediatric clinic was better than it would be if in the adult setting.
3. Given the social significance of pediatric clinics in participants’ lives, alongside the concerns regarding adult care, there was rootedness in the pediatric clinic and apprehension about transfer to the adult clinic.
4. In the face of the national policy of transfer to adult care at 13, no formalized national structures or services for adolescents, and the challenges HIV-infected adolescents experience, some physicians sought to bridge the gap between childhood and adulthood by providing adolescent-centered services for their HIV-infected clients.
5. Narratives speak to the transfer as a critical juncture in adolescents’ care and a transition as a holistic and gradual process, an element of which is the transfer.

Conclusions: A formal, culturally, and developmentally appropriate process of transition is necessary to manage the fear and apprehension both providers and adolescent patients experience when confronted with the transfer from pediatric to adult care.

TRENDS IN MORBIDITY AND MORTALITY

TUPE128
EVOLUTION OF RISK FACTORS FOR CHRONIC KIDNEY DISEASE IN THE FRENCH ANRS CO3 AQUITAINE COHORT, 2004-2014

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Background: Long-term management of an aging HIV positive population could be impacted by comorbidities as chronic kidney disease (CKD). Thus, monitoring their risk factors are important to target prevention. The objectives were to compare patients’ profile of ANRS CO3 Aquitaine cohort between 2004 and 2014 regarding epidemiological characteristics and comorbidities, including CKD risk factors as proposed in the 2013 French guidelines and literature (Mocroft PLoS Med. 2015; 12(3):e1001809).

Methods: Two repeated cross-sectional analyses were performed using Aquitaine Cohort data. In this prospective open cohort, epidemiological, clinical, therapeutic and biological data are systematically collected in a standardized way on all patients in care, with informed consent, in public hospitals in south Western, France. Eligible patients had ≥1 clinic visit in 2004 and 2014.

Results: The patients’ CKD risk factors in 2004 and 2014 are displayed in table. In ten years, the age category ≥50 years was multiplied by 2.5 and the African origin increased by 60%; all biological risk factors (except hepatitis co-infection) increased over time. In 2004, 41% of patients had ≥3 CKD risk factors which increased to 66% in 2014 (figure). In 2004, 33.4% of the cohort had low (< 0) risk score for CKD, 35% medium (0-4) score and 31.6% high-risk score (≥5) vs 21.8%, 32.7% and 45.5% of patients in 2014, respectively.

Conclusions: Over time, with ageing, the prevalence of CKD risk factors has increased and infectious comorbidities decreased. Follow-up procedures should emphasize the prevention / correction of risk factors amenable to prevention.
TUPEC129

EVOLUTION OF COMORBIDITIES IN HIV PATIENTS IN ITALIAN ICONA COHORT: CROSS-SECTIONAL ANALYSIS IN 2004 AND 2014

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Presenting author email: antonella.darminio@unimi.it

Background: Because life expectancy of people with HIV, although extended by cART, largely depends on their stage of HIV disease progression and co-morbidities when first seen for care, estimates of the prevalence of AIDS and non-AIDS morbid- ity are crucial to plan their long-term management.

Objectives: Describe demographics, HIV markers and comorbidities in ART-naïve patients in ICONA cohort and compare their characteristics with ART-experienced population according to current calendar year (2004 and 2014).

Methods: A cross-sectional analysis was performed after population stratification in 4 mutually exclusive groups who were under active follow-up in 2004 or 2014 according to previous treatment history (ART-naive vs. -experienced). People were included if they were seen for care at least once in the year. ART-naïve patients were defined as those who, by December 31st of the year, had not started ART.

Results: Table summarises patients’ demographics and HIV disease characteristics. Figure shows the prevalence of non-AIDS comorbidities. In 2014, ART-naive people were older, showed higher CD4 count and less frequently AIDS. ART-naive patients in 2014 presented increased risk for renal, CHD and hypertension and similar prevalence of diabetes and dyslipidaemia. Overall>50% showed moderate or high risk of comorbidities. These were, on average, higher in ART-experienced, regardless of calendar year.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>2004 (N= 471)</th>
<th>2014 (N= 95)</th>
<th>p-value</th>
<th>2004 (N= 1680)</th>
<th>2014 (N= 1826)</th>
<th>p-value</th>
<th>Global p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, Median (IQR)</td>
<td>40 (34, 44)</td>
<td>50 (45, 53)</td>
<td>0.206</td>
<td>41 (37, 46)</td>
<td>50 (46, 55)</td>
<td>0.381</td>
<td>0.044</td>
</tr>
<tr>
<td>Gender, Female (%)</td>
<td>149 (31.6%)</td>
<td>26 (27.4%)</td>
<td>0.835</td>
<td>523 (31.1%)</td>
<td>384 (20.2%)</td>
<td>0.346</td>
<td>0.537</td>
</tr>
<tr>
<td>CD4 count &gt;500 cells/mm³ (%)</td>
<td>572 (25.7%)</td>
<td>60 (69.0%)</td>
<td>0.015</td>
<td>763 (1266)</td>
<td>763 (1266)</td>
<td>0.198</td>
<td>0.013</td>
</tr>
<tr>
<td>HIV RNA, copies/mL (%)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>

[Table 1]

[Figure 1. Proportion of patients with moderate/high risk of coronary heart disease and chronic kidney disease, and prevalence of hypertension, dyslipidaemia and diabetes]

Conclusions: The prevalence of comorbidities and risk factors in ART-naïve patients is lower than that in the experienced population. However, because it is consider- ably high and higher than that of ART-naïve patients a decade ago it is likely to influence the type of care of these patients.

TUPEC130

PRE-ART MORTALITY FOR ADULTS HIV PATIENTS ENROLLED INTO PUBLIC-DRIVEN HIV CARE PROGRAM IN MWANZA REGION TANZANIA (2011-2014), A COMPETING RISK ANALYSIS

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Background: In many African HIV programmes, patients initiate antiretroviral ther- apy (ART) based on clinical or immunological criteria. Mortality rates following ART initiation are high because patients present with advanced stage of the disease. However, prior to ART initiation, high mortality rates are also seen among HIV infec- ted patients in resource limited settings, although little has been done to understand the pre-ART mortality rates. We analysed routinely collected patient-level data from the government driven HIV programme to determine these rates.

Methods: Survival analysis was used for ART initiation. Follow-up time was from date of clinic enrolment to death - defined if patient records had a date of death and no ART start date. Censoring was defined as the date for Lost-to-follow-up (LTU), ART start date, or at last clinic visit, global censor- ing at 31st December 2014. In the analysis, LTU was considered a competing event, as this can be due to death (ie non-independence from the outcome). Age specific mortality rates per 100 follow-up years were calculated. Competing-risk regression models were used to compare the hazards experienced by sub-groups when enroll- ing into clinics and before ART start.

Results: Of 32,205 HIV positive adults who enrolled in clinics between 2011 and 2014, there were 21,501 (64.8%) females. During follow up, 752 adults died prior to ART initiation with overall pre-ART mortality of 2.64 (2.45-2.83) per 100 person years and 5,942 were lost to follow-up. Mortality rates increased with age at enrol- ment (from 1.48 in 15-19 age-group to 4.50 in those 60+ age-group). Mortality rates decreased with increasing CD4 counts at enrolment (from 2.72 at <200 cells/ml to 1.03 at 500+ cells/ml) but increased with higher WHO stage at enrolment (1.38 at Stage 1 to 7.94 at Stage 4). Competing risk analysis showed increasing hazard ratios with older age.

Conclusions: The crude per-ART mortality rate of 2.64 per 100 person-years is about eight times higher than the background adult mortality rate in most African countries. The competing risk analysis highlighted the underreporting of deaths among older age groups who were LTU.

TUPEC131

REGIONAL DIFFERENCES IN AIDS MORTALITY IN MEXICO: A CHALLENGE TO SOLVE

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Background: Mexico has provided free access to HAART since 2003. However, AIDS mortality rates have not decreased as expected, reducing only from 4.4 deaths per 100,000 inhabitants in 2003 to 4.2 in 2013. Regional differences are huge and the early diagnosis of HIV, quality of care, and socioeconomic status have been reported as determinants of health of people living with AIDS.

Methods: We estimate AIDS mortality rates from data for State level (2003-2013), and the average annual mortality rate in the 2437 Municipalities in Mexico (2009-2013). We identified the States and 25 Municipalities (20,000+ inhabitants) with the highest mortality rates. Data were correlated with the early diagnosis of HIV, quality of care and poverty.

Results: Tabasco (10.58 per 100,000 inhabitants), Quintana Roo (9.02), and Vera- cruz (8.65) were the Mexican states with the highest AIDS mortality rates; Zacatecas (1.03), Guanajuato (1.43) and Hidalgo (1.92) recorded the lowest rates. From 2003 to 2013, in 50% of Mexican states (16/32), the AIDS rates increased, rather than decreased. The difference between the states with the highest and lowest rate (Ta- basco and Zacatecas) was more than seven times. The 25 Municipalities with the highest mortality rates are located only in five states, all of them in the Southeast and among the poorest in the country: Veracruz, Chi- apas, Tabasco, Campeche and Oaxaca. The Municipio of Carlos A. Carrillo, Veracruz, ranked number one with a rate of 39.6 deaths per 100,000 inhabitants (nine times higher than the national rate), and Poza Rica, Veracruz, being number 25 with a rate of 13.4.

Conclusions: The data highlight the need for enhanced HIV detection and treatment for 25 Municipalities with the highest AIDS mortality rates, as well as the States most affected. Findings can help to identify the sites where resources should be targeted to reduce AIDS mortality in Mexico.

TUPEC132
THE RAPIDLY SHRINKING BURDEN OF HIV ON ADULT MORTALITY IN KWAZULU-NATAL, SOUTH AFRICA

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Background: Adult mortality declined considerably since the expansion of antiretroviral therapy (ART) programs, but the residual burden of HIV on adult mortality in generalized epidemics remains poorly understood.

Methods: We use demographic and HIV surveillance data from 2001 to 2014 covering a rural South African population of around 45,000 individuals aged 15 to 100. We use non-parametric survival analysis for estimating (i) population-wide adult LE gains since the introduction of ART in 2004, and (ii) the shortfall of the adult LE compared to that of the HIV negative population (i.e., the LE deficit). LE gains and deficits for groups of calendar years are decomposed by age and cause of death with data generated by a new verbal autopsy interpretation tool (HIViCova). All estimates are disaggregated by sex.

Results: Since the roll-out of ART, population-level adult LE has increased by 15.2 years for men (95%-CI: 12.4-17.8), and 17.2 years for women (95%-CI: 14.5-20.2). Reductions in TB and HIV related mortality account for 80% of the LE gains among men, and over 90% among women. For men, 10% is the result of a decline in external injuries. As a result of the mortality reductions, the LE deficit in 2014 had contracted to 1.2 years for men (95%-CI: -2.0 to 5.0) and to 5.3 years for women (95%-CI: 2.8 to 7.8). TB and HIV are responsible for over 90% of the LE deficit among men in 2011-14, and for over 84% among women. The remainder is largely attributed to other communicable diseases (Figure 1).

Conclusions: The burden of HIV on adult mortality in this population is rapidly shrinking, but remains sizable for women, despite their better engagement with HIV care services. The gains in adult life-years to date as well as the current LE deficit are almost exclusively due to differences in HIV and TB related mortality.

[Figure 1: Age-cause group contributions to the LE difference between the HIV negative population and the population as a whole, by sex (2011-14)]

TUPEC133
ANTIRETROVIRAL THERAPY (ART) AND HEAVY ALCOHOL USE IN HIV-ADULTS IN THE MIAMI ADULT STUDIES IN HIV (MASO) COHORT IS ASSOCIATED WITH OXIDATIVE STRESS AND LIVER DAMAGE

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Background: Increased oxidative stress is implicated in the development of liver disease, a major cause of morbidity and mortality in HIV infection. While chronic alcohol use and ART have been shown to increase oxidative stress and cytotoxicity in vitro, sufficient evidence is lacking in human populations.

Since the prevalence of alcohol use in people living with HIV (PLWH) is high, and the majority of HIV+ patients are on antiretroviral therapy (ART), it is important to study the interactions between alcohol consumption and ART and their effect on liver disease in PLWH.

Methods: PLWH from the MASH cohort (n=320) were consented. Questionnaires on demographics, ART use, and the Alcohol Use Disorders Identification Test (AUDIT) were completed (≥ 3 alcoholic drinks/day was defined as heavy alcohol drinking, < 3 alcoholic drinks/day was defined as moderate alcohol drinking/abstaining). Blood was drawn for measures of oxidative stress (mitochondrial-DNA-specific 8-oxo-dG [mt-8-oxo-dG]) and markers of liver function (AST, conjugated bilirubin, platelets). CD4 cell count and HIV viral load was obtained from medical charts. Descriptive and inferential statistics were used for analyses, adjusted for age, gender, BMI, CD4 cell count and HIV viral load.

Results: Mean age was 44.9 ± 8.0 years, 65% were males and 69% were Black; 23% were heavy alcohol drinkers and 43% were not receiving ART. ART experienced participants had higher levels of oxidative stress and higher markers of liver disease than ART-naive participants (higher mt-8-oxo-dG (ΔCt±SD) [β= 0.09 SE = 0.05; P = 0.044]) and higher platelets (β=22.81, SE=11.57; P=0.05). Among the ART experienced, heavy alcohol drinkers compared to moderate drinkers/abstainers had higher mt-8-oxo-dG (β=0.09 SE = 0.05; P = 0.041) and platelets (β=23.9, SE=11.7; P=0.044). These differences were not evident among the ART-naive participants; however, heavy drinkers had higher AST (β=9.56 SE=4.8; P=0.050) and higher conjugated bilirubin (β=0.042, SE=0.02; P=0.046).

Conclusions: These findings show that ART and alcohol are associated with oxidative stress and may exacerbate liver injury. These data provide the basis for future therapeutic approaches to protect the liver in HIV disease.

TUPEC134
TREND IN HIV/AIDS DEATHS IN SOUTH AFRICA: ARE WE WINNING THE BATTLE AGAINST HIV/AIDS?

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Background: South Africa is one of the countries most affected by the HIV/AIDS epidemic. Mortality estimates are a good indicator of the impact of prevention and treatment interventions. This paper compares mortality estimates for HIV/AIDS from the 2nd National Burden of Disease study for South Africa (NBD SA) and the Global Burden of Disease study for the country (GBD SA).

Methods: Vital registration cause-of-death data from Statistics South Africa were adjusted for under-reporting of deaths using demographic methods. Source causes of death were compared to NHIRD data from the 2nd National Burden of Disease study for South Africa (NBD SA) and the GBD SA study. GBD SA underestimated deaths from HIV/AIDS for children < 5 years of age.

Conclusions: The GBD SA study overestimates HIV/AIDS deaths for South Africa post 2005, i.e. the antiretroviral treatment era and underestimates child deaths; an artefact of using a standardised model for all countries and UNAIDS Spectrum as a basis for their HIV/AIDS disease model. The downward turn in the number of HIV/AIDS deaths since 2005 in the NBD SA study align with the increase in access and coverage of antiretroviral treatment in the country and points to the success of HIV interventions.

[25 municipios with highest AIDS mortality rates in Mexico (2009-2013)]
MEASUREMENT AND MODELLING OF THE HIV EPIDEMICS

TUPEC135
INTRODUCING A FOUR-POINT CONTINUUM FOR MONITORING THE EFFECTIVENESS OF THE HIV RESPONSE IN EUROPE AND CENTRAL ASIA

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Background: As part of monitoring the HIV response in Europe and Central Asia, the European Centre for Disease Prevention and Control (ECDC) undertook a scoping exercise to assess data availability to monitor the HIV continuum of care. Six elements of the continuum were investigated: number of people living with HIV (PLHIV), number diagnosed, linkage to care, retention in care, antiretroviral therapy (ART), and viral suppression.

Methods: In December 2013, ECDC forwarded questionnaires to nominated country representatives from 48 countries to study how they were monitoring the HIV care continuum. Representatives from 48 countries responded.

Results: Thirty countries could provide data for all six elements of the continuum, while 32 could provide data for at least four. The study identified a lack of agreement as to what elements should be included in the continuum and how they should be defined. The elements least reported on, and with the least agreement on how to define, were ‘linkage to’ and ‘retention in’ care. Definitions of linkage to care varied from having attended HIV related care in a general or HIV specific health facility, having “registered” for care, or having had a CD4 count or viral load test. The time period within which these linkage to care markers were measured also differed. Definitions of retention in care included having at least one clinical visit per year, or having been in care over a defined period of time.

Conclusions: Attempts to compare HIV continuums across Europe and Central Asia are hampered by different data collection approaches and a lack of standard definitions. Based on feasibility to define common indicators and links to the UNAIDS 90:90:90 targets, ECDC is introducing a standardised four-point continuum (PLHIV; diagnosed; on ART; viral suppression) (figure 1). Separate measures will be used to monitor the remaining two quality of care elements as secondary outcomes.

TUPEC136
THE USE OF A MATHEMATICAL MODEL AND RISK RATIO TO ESTIMATE THE IMPACT OF HIV/AIDS INTERVENTION PROGRAMS ON FEMALE SEX WORKERS (FSW) AND THEIR COMMUNITIES: THE NIGERIAN EXPERIENCE

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Background: The objective of the MMTWG is to develop a mathematical model to estimate how many indirect HIV infections will be inverted among FSWs, their clients and the general population, attributable to prevention programs targeting female sex works in Nigeria.

Methods: A mathematical model (as shown in the appendix) was developed, using python programming language. The variables include initial prevalence of HIV among FSW, their clients; proportion of sex acts that are protected; Initial population of the target group; duration of the intervention; number of sexual contacts per FSW and average number of sexual acts. A specific risk equation was developed for the FSW, incorporating the current values. Three Scenarios of the model was estimated over a period of five years. Putting all infected FSWs on treatment, irrespective of their CD4 or WHO staging and keeping other variables constant; Putting only eligible FSWs on treatment and increasing condom distribution; and universal access to treatment for all FSWs and their clients.

Results: It was observed that if the status quo (37% of eligible positive FSW on treatment) is maintained, the new infection rate will gradually increase to 3.6 in five years’ time. Putting 80% of eligible positive FSWs on treatment will avert 2789 new infections in the same duration and reduce the current rate of new infections to 0.7. A slight decrease of 0.3% would be experienced in the general female population. Putting all FSWs on treatment returns a 89.7% reduction on the number of new infections among clients of FSW.

Conclusions: The mathematical model reveals the efficiency of treatment in reducing the rate of new infections among FSWs, their clients and general female. The models reveals the importance of the investing in the FSW intervention programs now, rather in the future. The model outputs can be used to calculate the Quality Adjusted Life Years (QALY) to be gained during the intervention. A slight contribution of the total number of condom distributed to a reduction in new infection rate was also noticed. Further modelling scenarios are required to effectively infer on the efficiency of the intervention programs.

TUPEC137
UNDIAGNOSED HIV INFECTION IN GERMANY: WHO DO WE NEED TO TARGET?

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Background: People with undiagnosed HIV infection contribute to ongoing HIV transmission. We estimated the number of people with undiagnosed HIV infection in Germany by gender, transmission group and age in order to guide targeted intervention.
Methods: We corrected voluntary AIDS case reports (1982-1995) and statutory HIV notification (1993 awards) for underreporting and used a monotone multiple imputation model to complete missing values. We used a combined non-parametric back projection model of AIDS cases and HIV diagnoses by gender and transmission group with age-group and CD4 cell count group as covariates. The number of undiagnosed infections in non-Germans acquired abroad could not be estimated, because migration disturbed the association between the number of infections and diagnoses.

Results: At the end of 2014, around 83,000 (77,000-91,200) people were living with HIV in Germany. Of these, around 13,200 (12,100-14,700; 15.9%) were undiagnosed. Most undiagnosed infections were among men (10,900; 10,100 - 12,100). Men who have sex with men (MSM) would be the largest group of undiagnosed (9,600; 8,900 - 10,600), followed by persons with heterosexual contacts (HET; 2700; 2300 - 3200) and drug users (IDU; 860; 650 - 1300). Conversely, the proportion of undiagnosed infections was the highest in HET (25.5%), followed by MSM (17.9%) and IDU (10.8%). Most affected age-groups of undiagnosed infections were 25-49 years in men and 25-39 years in women (Figure 1).

Conclusions: A substantial proportion of people living with HIV are still undiagnosed in Germany. Since the model could not take into account infections in non-Germans acquired abroad, the actual number of undiagnosed infections may be larger. To decrease this proportion, barriers to testing should be reduced, i.e. by reducing stigma, testing campaigns targeting MSM and HET or selling home testing/home collection tests. These interventions should not only be targeted at young adults, as many undiagnosed infections are estimated among middle-aged men.

TUPEC138
Can UNAIDS’ spectrum (AIM) model provide reliable local estimates for children affected by HIV in East Zimbabwe?

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Background: Reliable estimates of HIV and its effects in children are needed to establish the coverage and effectiveness of prevention and ART programmes amongst children. The AIDS Impact Model (AIM) in Spectrum is used by countries, with UNAIDS support, to produce HIV estimates but should be evaluated with empirical data. Using a region-specific model, we compare AIM estimates of HIV prevalence and orphanhood with general population data from Manicaland, east Zimbabwe.

Methods: Antenatal surveillance (ANC) data (N=1200 per round) and population survey data (N=10,000) for adults aged 15-49 years, from 12 sites in 3 districts in Manicaland, east Zimbabwe, collected in 5 rounds between 1998 and 2011, were input into AIM 2016 (version 5.40, February 2016) available at http://www.avenirhealth.org) to create a region-specific simulation on a consistent basis with national estimates. The simulation was fitted to local ANC surveillance and general-population data on HIV prevalence in adults. The model outputs were compared with empirical survey estimates of HIV and orphan prevalence in children aged 2-14 years, and 2010 Manicaland provincial DHS data on orphanhood. The impact of PMTCT services until 2010 (mainly single dose nevirapine) was assessed by comparing these model estimates with those from a model assuming no PMTCT coverage.
Conclusions: Condoms were inconsistently used even when adults suspected their partner was HIV positive. Reasons for this warrant exploration with qualitative studies. Suspicions of partner HIV exposure seemed low in this high prevalence setting, definitive determination of partner HIV status through partner testing and disclosure should be encouraged.

TUPEC140

AGE-MIXING PATTERNS AND HIV TRANSMISSION IN THE LIKOMA NETWORK STUDY

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Background: It has been suggested that the age-mixing pattern (AMP) in a population may partially explain the magnitude of HIV epidemics observed in Sub-Saharan Africa. Currently, there is conflicting evidence about whether a woman’s choice of older sex partners puts her at increased risk of HIV infection. We aim to describe the AMP in the Malawian context and its relationship to participants’ HIV status.

Methods: We conducted an analysis from the 2007/2008 implementation of the Likoma Network Study, a sociocentric network study of sexual behaviour and HIV on Likoma Island, Malawi. The AMP was visualized using scatterplots of participant age versus partner age. We used generalized linear mixed effects models to quantify the AMP in more detail, and to find associations between relationship characteristics and age-difference (AD). Logistic regression models were used to estimate the relationship between maximum AD and HIV status, adjusting for age and number of partners.

Results: The women (n=1068) and men (n=854) in our study reported 1648 and 1688 relationships, respectively. Among both genders there is a positive linear relationship between age of participant and partner’s age. The slope of the regression line in the male model is 0.72, while in the female model it is 1.1, indicating a slightly sharper increase in average partner age as women get older. For men and women, having a relationship with a non-spousal partner and using condoms in their relationship was predictive of smaller ADs. Men who said their female partners had a concurrent relationship, had on average a one-year increased AD compared to those who did not (95% CI: 0.15:1.89). Among women, those who had a partner at least 10-14 years older than them, were nearly 2 times more likely to be HIV positive than those whose maximum AD was 0-4 years (95% CI: 1.04:3.56).

Analysis time begins at the first negative HIV test and ends at seroconversion or is right censored by death, or migration of the end of data collection. We estimated HIV incidence rates (IR) and fitted piecewise exponential models to survival time to estimate hazard ratios (HR) for HIV incidence.

Results:

<table>
<thead>
<tr>
<th>Study name</th>
<th>Men: Crude HIV incidence/100 person years</th>
<th>Women: Crude HIV incidence/100 person years</th>
<th>Men: Adjusted HR (N=2,154)</th>
<th>Women: Adjusted HR (N=3,328)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>0.37 (0.30-0.45)</td>
<td>2.24 (2.06-2.43)</td>
<td>0.24**</td>
<td>0.54**</td>
</tr>
<tr>
<td>20-24</td>
<td>1.59 (1.42-1.78)</td>
<td>3.62 (3.39-3.87)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>25-29</td>
<td>2.84 (3.84-0.29)</td>
<td>0.96 (0.87-1.06)</td>
<td>1.51 (1.09-2.07)</td>
<td>1.97**</td>
</tr>
<tr>
<td>30-34</td>
<td>3.11 (2.11-1.51)</td>
<td>1.93 (2.10-1.03)</td>
<td>1.13 (0.96-1.32)</td>
<td>0.98**</td>
</tr>
<tr>
<td>35-38</td>
<td>1.15 (0.96-1.38)</td>
<td>0.90 (1.01-2.10)</td>
<td>1.51 (1.09-2.07)</td>
<td>1.82**</td>
</tr>
<tr>
<td>40-44</td>
<td>1.03 (0.84-1.27)</td>
<td>1.08 (0.93-1.26)</td>
<td>0.91 (0.68-1.23)</td>
<td>0.85**</td>
</tr>
<tr>
<td>45-49</td>
<td>0.92 (0.72-1.18)</td>
<td>0.89 (0.75-1.06)</td>
<td>0.95</td>
<td>0.75**</td>
</tr>
</tbody>
</table>

Peak age-specific IRs were at ages 20-24 (women) and 25-29 (men). Adjusted for site, marital status, mobility and calendar year, the hazard of infection remained stable until age 35 for both sexes. Crude IRs were lower for person-time spent married compared to unmarried. Adjusted HRs showed a protective effect of marriage for women of all ages but, for men under 25, marriage increased the hazard of HIV infection compared to single men (Table 1). In the regression model, older men’s marital status was not associated with incidence. The six months either side of a change of residence were associated with higher hazard of infection for women but not men (Table 1).

Date on circumcision and sexual behaviour await analysis.

Conclusions: Factors associated with incidence in these populations differ between men and women. Marriage is a risk for young men and protective for young women. For women, a change in residence, which presents a risk, may coincide with getting married, and thus reduce the observed benefit of marriage. For men aged over 25, marriage does not lower the hazard of infection, perhaps due to extra-marital sex.

TUPEC141

FACTORS ASSOCIATED WITH ACQUISITION OF HIV DURING 2005-2014 AMONG MEN AND WOMEN IN 7 COHORTS THAT PARTICIPATE IN THE NETWORK FOR ANALYSING LONGITUDINAL POPULATION-BASED HIV/AIDS DATA ON AFRICA (ALPHA)

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Background: Correlates of incident HIV infection may change as epidemics mature, treatment becomes widespread and behaviours change. In seven rural study sites from Kenya, Tanzania, South Africa, Uganda and Zimbabwe, ART has been available for at least 8 years. We examine factors associated with incidence among men and women aged 15 to 49 in these populations.

Methods: We analysed longitudinal data from seven population-based cohorts with regular HIV testing to ascertain factors associated with incident infection subsequent to ART rollout (2005-2014).

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Background: Correlates of incident HIV infection may change as epidemics mature, treatment becomes widespread and behaviours change. In seven rural study sites from Kenya, Tanzania, South Africa, Uganda and Zimbabwe, ART has been available for at least 8 years. We examine factors associated with incidence among men and women aged 15 to 49 in these populations.

Methods: We analysed longitudinal data from seven population-based cohorts with regular HIV testing to ascertain factors associated with incident infection subsequent to ART rollout (2005-2014).
Background: Heightened sexual risk-taking in adolescence may be partially explained by the ongoing cognitive development that occurs during this period. However, the association between cognitive functioning and adolescent HIV risk is under-studied, particularly in developing country contexts.

Methods: We evaluated executive functioning in a cohort of 853 young women age 18-25 in rural Mpumalanga province, South Africa who were enrolled in the HIV Prevention Trial 06B in a follow-up visit after trial exit. We administered two tests designed to be used in non-Western settings with minimal language reliance: a task switching test (Test 1) and a rule finding and switching test (Test 2). Using log-binomial regression models, we estimated the association between scoring in the lowest quintile of each executive function test and several behavioral (unprotected sex acts, concurrent partnerships, transactional sex) and biological (prevalent HSV-2 infection) indicators of HIV risk.

Results: In general, young women who tested in the lowest quintile of executive functioning reported higher levels of HIV risk behaviors and had higher HSV-2 prevalence, though associations tended to be small with wide confidence intervals. In particular, testing in the lowest quintile of Test 1 was associated with more concurrent sex acts, concurrent partnerships, transactional sex and biological (prevalent HSV-2 infection) indicators of HIV risk.

Conclusion: These results demonstrate an association between low executive functioning and adolescent HIV risk. Future work should seek to better understand this association and to develop interventions to increase cognitive function and reduce HIV risk.
Women were 2.3 times more likely to test positive for HSV-2 shedding than HIV-2 women (11.56% vs 6.25% in pregnancy and 3.95% vs 1.51% postpartum, p=0.022). Age, gravidity, socio-economic status, or any of the other sexually transmitted diseases were not associated with genital HSV-2 shedding. Only one of the 5 (20%) incident cases of HIV was positive for genital HSV-2 shedding postpartum.

**Conclusions:** We confirm a strong association between HIV and HSV-2 in pregnant women. A larger study is needed to determine if HSV-2 shedding increases the risk for MTCT in HIV-infected women and risk of HIV acquisition in HIV-infected and postpartum women.

**RISK FACTORS FOR INFECTIVITY, PROGRESSION AND TRANSMISSION OF HIV**

**TUPEC145**

**PREDICTORS OF PROGRESSION FROM HIV-INFECTION TO AIDS AND AIDS-RELATED MORTALITY: A 11-YEAR PROSPECTIVE COHORT STUDY IN TIANJIN, CHINA**

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**Background:** The objective of this study was to identify specific factors associated with progression of acquired immunodeficiency syndrome (AIDS) and mortality in patients with human immunodeficiency virus (HIV)/AIDS. This prospective cohort study was conducted in Tianjin, China from January 2004 to December 2014.

**Methods:** Disease progression data from the diagnosis of HIV infection or acquiring immunodeficiency syndrome (AIDS) were collected from the national surveillance system databases and the national treatment database in Tianjin, China. Kaplan-Meier method, and Cox proportional hazards model were applied to identify the related factors of progression to AIDS or death following HIV diagnosis.

**Results:** We enrolled 3177 HIV-infected individuals or AIDS patients in Tianjin Centers for Disease Control and Prevention. The outcomes of interest were the estimation of time:

(1) From HIV diagnosis to AIDS progression and (2) from AIDS to AIDS-related death.

The 1st-year, 5th-year, and 9th-year probability for disease progression from HIV diagnosis to AIDS was 6.9%, 8.9% and 2.4%, and that for AIDS-related death was 13.9%, 10.4%, and 5.0%, respectively. Multivariate Cox regression analysis indicated that AIDS progression was significantly associated with age (P = 0.013), HAART or not (P = 0.000), and baseline CD4 count (P = 0.000). The transmission of HC (HR, 1.854 (95%CI: 1.296, 2.626)) and blood (HR, 2.610 (95%CI: 1.127, 6.045)) were predictors of higher mortality of AIDS-related death.

**Conclusions:** The results of this study indicated that progression to AIDS and AIDS-related death is affected by several modifiable and non-modifiable predictors. Initiation of HAART with higher CD4+ T-cell count may reduce rate of AIDS progression. Based on our results, we conclude that efficient strategies for HIV screening, as well as early diagnosis and treatment are necessary to reduce the progression of HIV to AIDS.

**TUPEC146**

**GEOGRAPHIC HIV EPIDEMIC MAPPING: A STRATEGY FOR IDENTIFYING POPULATIONS AT HIGH-RISK OF HIV INFECTION IN ZIMBABWE**

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**Background:** Zimbabwe is one of the countries in sub-Saharan Africa most affected by HIV, with a prevalence rate of 15.2% according to ZDHS (2011). Geographical structure of the epidemic is influenced by some driving factors and it has implications on the susceptibility of infection amongst some populations. PSI Zimbabwe embraced the universal 90-90-90 concept and it endeavours to reduce HIV transmission by targeting populations with high positivity in Zimbabwe. PSI Zimbabwe employs targeted mechanism during outreach HIV Testing Services (HTS) to increase chances of reaching HIV positive clients.

This study was aimed at identifying geographic clusters of HIV based on positivity threshold evidence of 10% countrywide.

**Methods:** Routine data from the outreach HTS programme administered by PSI Zimbabwe’s New Start Centre network and collected between October and December 2015 was used for this analysis. A database with a total of 68,577 clients was used for this study. Geographic coordinates for places were outreach activities took place were used for analysis. Sixty-five (65) districts where the outreach HIV testing and counselling services were provided were considered as the geographic epidemic clusters for the analysis, by classifying them according to HIV positivity based on the 10% threshold.

**Results:** The average HIV positivity was 9.1% nationally. Fifteen out of 65 (23%) districts were identified as having areas with HIV positivity equal or greater than 10%. Thirty three percent of clients were first time testers. Four districts (6%) had areas with HIV positivity greater 15%. Results suggest geographic variation in the transmission of HIV in Zimbabwe.

**Conclusions:** This study provides evidence of HIV geographic clustering. The findings identify priority geographic areas for HIV programming and support the need for targeted interventions amongst populations at high risk in order to achieve the desired 90-90-90 targets by 2020.
justed hazard ratio (AHR) 1.83; 95% confidence interval (CI) 1.58-2.13). When type of stroke was considered, HIV infection increased the risks of ischemic (AHR 1.33; 95% CI 1.09-1.63) and hemorrhagic stroke (AHR 2.01; 95% CI 1.51-2.69). The risk of incident stroke was significantly higher in HIV patients with cryptococcal meningitis (AHR 4.40; 95% CI 1.38-14.02), cytomegalovirus disease (AHR 2.79; 95% CI 1.37-5.67), and Penicillium marneffei infection (AHR 2.90; 95% CI 1.16-7.28).

**TUPEC148**

META-ANALYSIS SHOWS BIASED ESTIMATES OF DEATH IN HIV-POSITIVE ADULTS ON ART IN LMIC

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**Background:** Loss to follow-up is a common problem in epidemiological studies. HIV-positive patients in low-to-middle income countries (LMICs) are at highest risk of poor retention in care, death and loss, in the first 3-months on antiretroviral therapy (ART). We systematically reviewed studies of mortality in the first 3-months post-ART initiation in LMIC and classified studies based on the potential for bias.

**Methods:** Studies of mortality within 3-months post-ART initiation from January 2003-October 2014 in PubMed, Web of Science, EMBASE and IAS and AIDS abstracts were searched. Articles were included if they were conducted in a LMIC, a non-trial setting; participants were ≥15 and reported 3-month mortality. Using random effects models we assessed 3-month mortality overall and stratified by study bias. Low bias was assigned if a study specified active and passive tracing of patients lost, moderate bias if specified passive tracing and high bias if no mention of either.

**Results:** 54 studies were included; 43 (78%) from SSA, 10 (19%) from Asia, 1 (2%) from the Americas. Overall 3-month mortality was 5.9% (95% CI: 5.1-6.8%). When stratified by level of study bias, mortality estimates were higher for studies reporting active and passive tracing (low bias:7.4%; 95%CI: 6.1-8.8%) vs. those only mentioning passive tracing (moderate bias:5.4%; 95%CI: 3.9-7.2%) or those mentioning neither active or passive tracing (high bias:3.7%; 95%CI: 3.5-4.0%).

**Conclusions:** Our results show that estimates of early mortality in LMIC countries are underestimated by 30-50% due to potentially undercounting deaths and loss to follow-up bias, supporting previous studies. Linking to vital registration systems, whenever possible, and active tracing of patients lost could result in more valid estimates of early mortality and help those loss return to care and decrease their risk of death. As smaller decentralized ART facilities increase in number, rates of retention in the early stages of HIV care and treatment should improve.

**TUPEC149**

COMBINED ANTIRETROVIRAL THERAPY AND ARTERIAL STIFFNESS IN HIV-INFECTED PATIENTS FROM A BRAZILIAN COHORT

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**Background:** Evidence suggests that combined antiretroviral therapy (cART) is associated with increased arterial stiffness measured by carotid-femoral pulse wave velocity (cf-PWV) in HIV-infected population. We aimed to assess if cART use and specific regimens are associated with arterial stiffness compared to cART-naive patients.

**Methods:** CF-PWV was determined in 536 HIV infected patients followed in the Instituto de Pesquisa Clínica Evandro Chagas (IPEC) using a validated automated device (Complior SR, France). Arterial stiffness (AS) was considered when the cf-PWV was greater than 75th percentile. Linear regression analyses with logarithmic transformation of cf-PWV were performed to adjust differences between cART use, including specific regimens and factors associated to arterial stiffness.

**Results:** Overall, 58.46% of participants were male, median age was 43.58 (interquartile range [IQR] 36.57-50.18 years). AS was present in 33.3% of participants, 89.16% of them using cART for a median of 4.15 (IQR: 0.7-10.17) years and 71% with undetectable viral load. Patients with AS were older and more likely to have traditional cardiovascular risk factors, lipid profile and time on cART when compared to those without AS.
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TUPEC151

**NEED FOR ADDITIVE INVESTMENT AND REDESIGNING OF STRATEGIES FOR EFFECTIVE PREVENTION, TREATMENT, CARE AND SUPPORT SERVICES FOR HIV AND AIDS INTERVENTIONS IN A "MIXED" HIV EPIDEMIC NATION**

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**Background:** Nigeria with population of 170 million has a generalized epidemic and HIV prevalence of 3.0%. Over 3.4 million persons are estimated to be living with HIV virus. Since 2001, the Prevalence has continued to decline from 5.8% in (2001), 4.6% (2008) to 3.0% in 2014. One major challenge that threatens to reverse the current achievement is the increasing prevalence of the key populations (KP) - MSM, FSW and PWID etc, far above the national prevalence.

**Methods:** A meta-analysis of the results of the 2014 ANC and Syphilis sentinel survey conducted among 36,431 pregnant women aged 15 - 49 attending ANC for booking of index pregnancy in the 160 sentinel sites and the result of the 2014 Integrated Behavioural and Biological Surveillance Survey conducted among 22,841 High risk groups (MSM, Brothel Based Female Who Sell Sex (BBFWSS), Non Hotel Based Female Who Sell Sex (NBBFWSS), People who inject drugs (PWID), Transport workers, Police and the military). Respondent Drained Sampling was used for MSM & PWID while Time Location Sampling was used for the FWSW.

**Results:** The result showed that MSM had the highest prevalence of 22.9% (95% CI: 21.4-24.4) followed by BBFWSS 19.4% (95% CI: 18.1 - 20.6). The prevalence among the NBBFWSS is 8.6% (95% CI: 7.7 - 9.6) while the PWID is 3.4%. The prevalence values among the KPs were higher compared with the results of the 2014 ANC sentinel survey and the 2012 population based survey which are 3.0% and 3.4% respectively.

While the BBFWSS, NBBFWSS and IDU has maintained a steady decline in prevalence as shown in the figure I, the MSM has consistently increased from 13.5% in 2007, 17.2% in 2010 to 22.9% in 2014.

**Conclusions:** Though, prevalence is declining, but with the current prevalence among the KP especially MSM, which is over 7 times higher than the general population prevalence, there is an urgent need for reprogrammging and strengthening the current interventions in Nigeria. It is also important to factor the key populations in estimation and modeling. This is to ensure that the gains and successes so far in HIV control and prevention is not reversed.

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TUPEC150

**MARRIAGE OFFERS GREATER PROTECTION FROM HIV FOR MEN THEN IT DOES FOR WOMEN IN RURAL KWAZULU-NATAL**

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**Background:** Marriage may be protective against HIV acquisition, yet marriage in rural KwaZulu-Natal is often delayed due to the need to save for lobola (traditional bride price). A critical question is whether other long-term (often pre-marital) relationships may be equally protective. We assessed the association between marital status and HIV acquisition for men and women in an area of KwaZulu-Natal, South Africa, where non-marital long-term relationships are prevalent.

**Methods:** Using longitudinal data from the Africa Centre for Population Health (2001-2013) collected via demographic surveillance and repeat HIV biomarker collection, we assessed the relationship between relationship form (marital relationship and non-marital conjugal relationship) and HIV incidence, measured as a change in HIV serostatus across survey rounds. We assessed this association in interval censored Weibull proportional hazards models, controlling for age, education, having children, and having migrated.

**Results:** Men and women who were married had lower HIV incidence compared to those in unmarried conjugal relationships, controlling for other factors: adjusted hazard ratios were 0.536 (0.366-0.784) for men and 0.844 (0.738-0.964) for women. The protective association between marriage and HIV risk was significantly stronger for men than for women (p = 0.02). HIV was also positively associated with previously established predictors of HIV risk: migration, and additional concurrent conjugal relationships.

**Conclusions:** Marriage was associated with lower incidence of HIV acquisition in persons in long-term conjugal relationships. This association was significantly stronger for men as compared to women.

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TUPEC152

**TARGETED AND EVIDENCE-BASED PRIORITIZATION IS NEEDED FOR CONTINUED HIV EFFORTS IN INDIA: HIV SENTINEL SURVEILLANCE (HSS) AMONG ANTENATAL CLINIC (ANC) ATTENDEES**

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**Background:** Surveillance is a vital component of any disease control program and has been implemented in India for HIV since 1985 and expanded in 2003 to include pregnant women attending ANC clinics throughout the country. This is a major undertaking in a country the size of India and information gained is necessary for strategic and evidence-based management of the National AIDS Control Programme.

**Methods:** Over a three month period, 294,732 pregnant women aged 15-49 attending ANC clinics - a proxy for the general population - during the current round of surveillance were consecutively sampled from 741 sentinel surveillance sites for the 2012-13 round of the HSS. Serum was collected anonymously through venous blood specimen and tested twice if the first test was HIV positive. Additionally, information on age, education, occupation, spouse’s occupation, and spouse’s migration status was collected, and trends over time were analyzed using three-year moving averages.

**Results:** HIV prevalence among the ANC attendees of India was 0.35%. However, the spread of HIV in India is heterogeneous, with prevalence ranging from 0.00% in the states of Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, and Puducherry, to 0.88% in Nagaland, and even greater variation at district level, with 37 districts over 1.00%, and 12 sites as high as 2.00-3.00%. Across India, HIV prevalence was highest among women who were 15-24 years old, illiterate, rural residents, worked as hotel staff, and had spouses that were truckers or migrants. General
population HIV prevalence decreased overall in India from 2003-2013. However, in some regions, HIV prevalence remains high or is increasing.

Conclusions: India has made progress toward reducing HIV prevalence in formerly high prevalence states. Efforts and resources need to continue and intensify in emerging pockets of HIV and where HIV has consistently been high over the years. Targeted interventions should be focused on key affected sub-groups, such as young women, illiterate groups, hotel workers, truck drivers, and migrant workers. HIV testing and treatment needs to continue to expand to reach all people living with HIV.

EPIDEMOLOGY OF HIV IN CHILDREN

TUPEC153
MORTALITY IN HIV-EXPOSED UNINFECTED AND UNEXPOSED UNINFECTED INFANTS: A META-ANALYSIS
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1Boston University, Department of Global Health, Boston, United States, 2Boston University, Department of Epidemiology, Boston, United States, 3Boston University, Department of Health Sciences, Johannesburg, South Africa, 4Boston University, Department of Epidemiology, Boston, United States
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Background: Successful implementation of programs to prevent mother-to-child-transmission of HIV (PMTCT) via maternal antiretroviral (ARV) provision has reduced the risk of perinatal transmission of HIV. Prior studies have demonstrated that HIV-exposed but uninfected (HEU) children experience infection and death at rates exceeding that for their HIV-unexposed and uninfected (HUU) counterparts. We conducted a meta-analysis to summarize the difference in mortality comparing HEU to HUU.

Methods: We searched studies published in English in PubMed, Web of Science, EMBASE, ProQuest and IAS and AIDS conference abstracts. Studies were included if they provided comparison of HEU to HUU infants and children and mortality, in any time period and in any setting. Due to heterogeneity between studies we used random effects models to calculate pooled risk ratios overall and then stratified by follow-up time (< 6 and >6 months) and year in relation to implementation of PMTCT in public sector (< 2002 vs. ≥2002). We also displayed results in a survival curve over 60 months of follow-up. For survival curves we interpolated mortality estimates for studies that had missing estimates at certain time periods.

Results: Of 199 studies receiving full text review,16 from sub-Saharan Africa and 1 from Haiti were included. HEU children had over a 60% increase in mortality compared to their HUU counterparts (RR:1.61, 95%CI: 1.08-2.39)(Figure).

Conclusions: For the first time, using meta-analytic techniques, we show an increased risk of mortality for HEU compared to HUU children. Further longitudinal research is needed with established cohorts to help elucidate underlying mechanisms for this difference in mortality between groups.

TUPEC154
THE IMPACT OF HIV/ AIDS ON THE CHILDREN’S RIGHT TO EDUCATION IN MYANMAR
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1Ministry of Health, Department of Medical Research, Yangon, Myanmar, 2Ministry of Health, National AIDS Program, Nay Pyi Taw, Myanmar, 3UNICEF, Yangon, Myanmar
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Background: National data on situation of children from HIV affected families is needed for better planning of mitigation program for these affected children. Therefore, a nationwide survey was conducted in 30 townships from 13 States/Regions of Myanmar in 2013-2014.

Methods: It was a cross-sectional comparative study which aimed to identify and compare the education and basic material need conditions of children affected by HIV and AIDS (CABA) with children from neighborhood. CABA were children under 18 years whose parent(s) are living with HIV or lost one/bboth parents due to AIDS regardless of child's HIV status. Age group matched children were recruited from neighborhood. Parents/guardians of 1,511 CABA and 1,511 controls were interviewed by using a pre-tested, structured questionnaire. In-depth interviews were conducted with providers and parents/guardians.

Results: Mean age of the children was 8.74±1.4 years and 46.8% of CABA were orphans. Over 24% of CABA were HIV infective and 75% have initiated ART. Among 5 to 17 years old children, 16.3% of CABA are not currently attending school which is significantly higher than their counterparts (9.1%) (P<0.001). Similarly, amongst 10 to 14 years old children, 14.7% of CABA compared to 5.7% of controls were out of school (P<0.001). School performance of 12.1% of CABA and 5.7% of controls were indicated by the guardians as below average (P<0.001). Considerably higher proportions of guardians of CABA expressed that they were unable to cover costs of school stationary (46.8% vs. 23.6%), school uniforms (42.1% vs. 18.5%), and other school expenses (43% vs. 22.3%) (P<0.0001). CABA school attendance ratio was 0.9 which shows relative disadvantage in school attendance between CABA and control children. During discussions, family economy, health condition of HIV infected children, stigma and discrimination at school were indicated as the reasons for discontinuing school.

Conclusions: The needs of out of school and HIV positive adolescents should be partially addressed through livelihood development initiatives and job placement. Stigma and discrimination at school environment and communities also need to be addressed. In conclusion, long term strategic plans should be drawn up for addressing the overall development of CABA especially focusing on their rights to education.

TUPEC155
IMPACT OF HIV INFECTION AND ANTIRETROVIRAL THERAPY (ART) DURATION ON NEURODEVELOPMENT OUTCOMES AMONG CHILDREN AGED 7 TO 14 YEARS, IN RAKAI, UGANDA
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Presenting author email: hbrahmab@jhu.edu

Background: Despite the fact that over 90% of the over 3 million children estimated to be living with HIV/AIDS were in sub-Saharan Africa by the end of 2015, there is a paucity of data on the impact of HIV/AIDS on the neurodevelopment of children in resource-poor settings. The objective was to assess the impact of HIV infection and long term-ART on neurodevelopment outcomes among children aged 7 to 14 years. Our hypothesis was that long-term ART use would ameliorate neurodevelopmental sequelae of HIV infection.

Methods: HIV positive and negative mother-child pairs were recruited from the Rakai Community Cohort Study (RCCS) and ART clinics in Rakai and followed prospectively for over 4 years. The Kaufman Assessment Battery for Children (KABC II) was used to assess sequential and simultaneous processing, learning, planning, knowledge, and Fluid Crystallized Index (FCI) for overall functioning. Multivariable generalized linear models were used to estimate adjusted Prevalence Rate Ratios (adjPRRs).

Results: Of the 370 mother-child pairs, 55% were HIV negative controls (MHIV+/CHIV-), 7% were HIV exposed but uninfected (MHIV+/CHIV+) and 37.9% were HIV positive mothers and children (MHIV+/CHIV+). Longer duration of ART (Table 1) was associated with a significant improvement of sequential processing skills, and each additional year of schooling was associated with a significant 30-40% decrease in
TUPEC156

Virological response to first-line ART in children in the European pregnant and paediatric HIV cohort collaboration (EPPICC)

R.L. Goodall1, E. Chiappini2,3, D.M. Gibb1, T. Klimkait4, N. Ngo-Giang-Huong5,6, and Paediatric HIV Cohort Collaboration (EPPICC)

Methods: Time of virological suppression (‘response’) was estimated as the midpoint between the first VL<400c/mL and previous VL≥400c/mL. Multivariable stepwise logistic regression models (backwards elimination, exit probability p=0.05) were used to identify factors associated with virological suppression by 12 months from ART initiation (baseline).

Results: 2202 children initiating ART <18 years with a boosted PI or NNRTI plus ≥2 NRTI had baseline VL and ≥1 VL measurement available within the first 15 months of ART. 91% were perinatally infected with median[95% CI] age 3.8[0.8,8.5] years at HIV diagnosis and 6.4[1.6,10.7] years at ART initiation. Median[95% CI] baseline CD4% was 16[8,24]. 91% achieved virological response by 12 months. In multivariable analysis, the effect of ART regimen on virological response varied by age at ART initiation (Table): in children <3 years, compared to a PI-based regimen, odds of response were significantly reduced for those starting a NVP+3NRTI regimen, but not significantly different for those initiating on NVP+3NRTI; conversely, children ≥3 years had higher odds of virological response compared to those <3 years, with no significant differences between regimens. Additionally, across all ages, starting an abacavir-containing regimen, VL <100,000 copies/mL, and more recent calendar year at ART initiation were associated with increased odds of virological response. Children in Russia/Ukraine had reduced odds of response. There was no significant effect of gender, being born abroad, baseline CDC clinical stage, CD4%, HCV/HBV status or mode of infection.

TUPEC157

Spatial confounding adjustment of childhood malnutrition in rural north-east South African households: a Bayesian multivariate and structural equation modelling approach

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Background: The extent of geographical-social disparities on childhood malnutrition associated with HIV has hardly been explored yet it is a reservoir of information for effective public health interventions. Our primary aim was to determine factors associated with two malnutrition indicators (weight-for-age and height-for-age) adjusting for their multivariate spatial random effects. Secondarily, pathways linking independent factors, HIV and malnutrition indicators, were examined. We tested the hypothesis: “HIV retards child growth controlling for other factors and household spatial random effects”.

Methods: We analyzed data from a cross-sectional anthropometric survey of 648 children aged 1 - 5 years collected in 2007. We employed a Bayesian multivariate and spatial model to simultaneously analyze the two indicators of child malnutrition. To assess the mediator impact of HIV on correlated malnutrition indicators and other explanatory variables we used structural equation models adopting a systems thinking approach from spatially adjusted posterior estimates.

Results: Spatial multivariate adjusted analyses revealed a negative effect due to HIV and protective effects with older aged children and mothers, and maternal education. Pathway analyses of these factors showed that HIV had a significant mediator effect and the greatest worsening effect of -0.55 (95% CI: -1.09,-0.02) and -0.61(95% CI: -1.09,-0.02) for weight-for-age and height-for-age respectively. Our primary aim was to determine factors associated with two malnutrition indicators (weight-for-age and height-for-age) adjusting for their multivariate spatial random effects. Secondarily, pathways linking independent factors, HIV and malnutrition indicators, were examined. We tested the hypothesis: “HIV retards child growth controlling for other factors and household spatial random effects”.

Conclusions: Most children achieve virological suppression by 12 months. Response was more likely in recent years and less likely in children starting NVP+2NRTI <3 years, possibly due to under-dosing. Further work will explore predictors of virological failure.

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impairment for all neurodevelopmental measures assessed. Healthier children (high-

er age standardized height and weight), had improved sequential and simultaneous

processing and overall FCI.

Table: Factors at ART initiation associated with virological response by 12 months:

Regimen/age interaction:

<table>
<thead>
<tr>
<th>N (%)</th>
<th>aOR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVP+3NRTI, &lt;3yrs</td>
<td>345 (16)</td>
<td>1.0</td>
</tr>
<tr>
<td>NVP+3NRTI, ≥3yrs</td>
<td>263 (12)</td>
<td>0.42 (0.26, 0.67)</td>
</tr>
<tr>
<td>NNRTI+3NRTI, ≥3yrs</td>
<td>98 (4)</td>
<td>0.62 (0.28, 1.39)</td>
</tr>
<tr>
<td>NNRTI+3NRTI, &lt;3yrs</td>
<td>417 (19)</td>
<td>1.71 (1.01, 2.91)</td>
</tr>
<tr>
<td>NVP+2NRTI, &lt;3yrs</td>
<td>337 (15)</td>
<td>2.35 (1.24, 4.44)</td>
</tr>
<tr>
<td>NVP+2NRTI, ≥3yrs</td>
<td>742 (34)</td>
<td>1.82 (1.12, 2.97)</td>
</tr>
</tbody>
</table>

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EPIEDEMOLOGY OF HIV IN YOUTH AND ADOLESCENTS

TUPEC158
A CROSS-SECTIONAL STUDY OF HIV-RELATED KNOWLEDGE AND ATTITUDES AMONG MEDICAL AND PARAMEDICAL STUDENTS IN A UNIVERSITY, NEW DELHI, INDIA

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Background: The HIV/AIDS pandemic is in its fourth decade. However, stigma and discrimination at health care setting, work places and at educational institutions are still presents as challenges and concern. Hence, this study was conducted with an objective to determine the knowledge and attitude about HIV/AIDS and towards people living with HIV, among the first year medical and paramedical students.

Methods: This cross-sectional study was carried out at Jamia Hamdard University in October 2014. All the 100 medical and 100 paramedical students were considered for the study (absentees excluded). Hence a total of 179 students were interviewed. The data were collected using a pre-designed, pre-tested, alpha numeric coded, self-administered, structured questionnaire and further analysis was done using MS excel and other relevant statistical tests.

Results: Out of 200 students, 179 were present on the day of data collection. This study revealed that television (89.39%), the internet (87.15%), teachers (89.39%), newspapers (83.80%) and books (93.30%) were the students’ major source of information on HIV/AIDS. Students (171) are more comfortable discussing HIV/AIDS with the friends of the same sex (95.5%). Regarding disease transmission, the majority (154) were aware of the major routes of transmission; however, 56 (31.2%) students believed that HIV can be transmitted through a mosquito bite. The study also revealed that 168 nos. of the students (93.8%) know that HIV is a preventable disease, and that condoms play an important role in prevention. Out of 179, only 89 nos. (49.7%) of students ever heard of anti-retroviral therapy. 167 (93.2%) students have respect towards people with HIV/AIDS, yet almost half of the students think that HIV+ couples should not have children.

Conclusions: This study indicates that students have a wide variety of sources to obtain information on HIV/AIDS. While students understand the major routes of transmission, misconceptions persist. Further action is required to improve HIV-related knowledge and attitudes in this university setting.

TUPEC159
COMMUNITY-BASED ADOLESCENT AND YOUTH HIV TESTING AND ENROLLMENT IN HIV CARE IN HAITI

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1Weill Cornell Medical College, New York, United States; 2Gheskio Centers, Port-au-Prince, Haiti; 3Gheskio, Port-au-Prince, Haiti; 4ICAP at Columbia University, New York, United States
Presenting author email: rachelbertrand@hotmail.com

Background: Adolescents account for 40% of new HIV infections in Haiti, yet only 20% of adolescents know their HIV status. Community-based testing strategies may increase HIV testing among high-risk adolescents and youth.

Methods: A community-based adolescent and youth HIV testing and counseling (HCT) campaign was conducted in 7 slum areas of Port-au-Prince, Haiti from October 2014 to September 2015. Community health workers (CHW) provided community sensitization and recruited adolescents and youth ages 10-24 to test for HIV, Syphilis, Gonorrhea, Chlamydia, and pregnancy and screen for Tuberculosis (TB). Guardian consent was required for adolescents ≤16 years, per national guidelines. HIV-infected individuals were escorted to the Gheskio HIV clinic for same-day enrollment in HIV care, which included confirmatory testing and point-of-care CD4 testing.

Results: Among 3,348 individuals tested, HIV prevalence was 2.65% (n=89), of whom 73% were female with median age of 19 years (IQR 17-20). HIV prevalence varied from 0.6% to 7.4% within slum areas (defined by participant address), and was 7.9% (14/177) among 10-15-year-olds compared to 2.4% (75/3,082) among 16-24-year-olds. 100% of HIV-infected individuals enrolled in care the same day as testing, with median CD4 529 cells/µL (IQR 363-761). Among all participants, 2.6% had syphilis infection and 9.3% had Gonorrhea or Chlamydia. 168 participants reported TB symptoms, and among those with symptoms, 13 (7%) had microbiologically-confirmed disease. Over 80% of 16-24-year-olds were sexually active, yet only 1% reported using modern family planning and 17% reported regular condom use. Challenges included the need for guardian consent for adolescents ≤16 years and violence in the slums which resulted in cancelled testing. There were no reported adverse events of sexual harm or loss of confidentiality.

Conclusions: This community-based HIV testing campaign identified an adolescent and youth population with an HIV prevalence three times higher than the estimated national adolescent HIV prevalence in Haiti (0.8%), including a subpopulation who likely acquired HIV perinatally. The campaign identified clustering of HIV across slum communities which may inform targeting of follow-up campaigns. Active recruitment of adolescents and youth for HIV testing is an approach which could control the HIV epidemic in Haiti.

TUPEC160
CHANGING SOCIAL NETWORKS AND INCREASED HIV PREVALENCE IN KENYAN ADOLESCENT WOMEN

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Background: Kenyan adolescent women are at high risk of HIV infection: 3% prevalence in early adolescence (10-14 years), 3% in mid-adolescence (15-17) and 15% in late adolescence (18-24). Social relationships are also dynamic during this phase. Understanding the association between social networks and HIV infection may suggest novel intervention strategies. We sought to elucidate demographic and social predictors of HIV infection and to understand how social dynamics differed with age.

Methods: As part of the SEARCH trial (NCT01864603), 14,812 adolescent women were tested for HIV in rural Kenya. Along with demographic information, residents aged ≥15 were asked to name social contacts that provided support in five domains: health, money, emotions, food, and free time. For all adolescent groups, the adjusted relative risk (aRR) of each demographic predictor of HIV status was evaluated with targeted maximum likelihood estimation (TMLE), controlling for confounders. For the two older age groups, associations between network characteristics (number and age of contacts) and HIV status were evaluated with TMLE, adjusting for demographics.

Results: Risk factors for HIV infection varied by adolescent group. Among early adolescent women, significant predictors included maternal death (aRR:3.1) and living in a community with high adult HIV prevalence (aRR:1.6). Among mid-adolescent women, significant predictors included lower socio-economic status (aRR:2.5), self-reported sexual activity (aRR:2.4), and leaving school (aRR:2.0). Among late adolescent women, significant predictors included living in a high prevalence community (aRR:1.3) and leaving school (aRR:2.3). Social networks also differed by age. For all domains, late adolescent women named more contacts and older contacts than mid-adolescent women (p<0.01). Having fewer adult (age>24years) social contacts with whom to discuss financial (aRR:4.3) and emotional matters (aRR:2.5) increased HIV risk among mid-adolescent women.

Conclusions: Demographic and social predictors of HIV infection, as well as egocentric social network characteristics, varied significantly by adolescent stage among Kenyan women. After controlling for known risk factors including poverty, leaving school, orphanhood, and sexual activity, low social support for financial and emotional concerns were associated with higher HIV risk in mid-adolescent women. Interventions to increase social support of adults to young women may reduce HIV incidence.

TUPEC161
HIV TRENDS AMONG ADOLESCENTS AND YOUNG ADULTS, AGES 15-24, IN 23 HIGH-BURDEN COUNTRIES

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Background: Coverage of HIV-related services among adolescents and young adults remains low, despite evidence of increased HIV risk among females in this age group in sub-Saharan Africa. In response, PEPFAR has launched the DREAMS initiative. Epidemiological data on these age groups are needed to inform implementation of DREAMS. In 2015, 23 countries in 8 sub-Saharan African countries were surveyed to analyze HIV-related trends among younger people, ages 15 to 24, in 23 high-burden countries. Analysis was based on seven indicators: prevalence, in-

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TUPEC172
COCAINE USE INCREASES BIOMARKERS OF LIVER DISEASE IN THE MIAMI ADULT STUDIES OF HIV IMASHO Cohort
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Background: Advances in antiviral therapy (ART) have significantly reduced HIV-related mortality; however, substance abuse accelerates HIV-disease and may facilitate progression of liver disease. Hepatic injury results in fibrogenesis, associated with apoptosis, increased levels of plasma LPS and oxidative stress. While a proportion of people living with HIV (PLWH) engage in substance abuse, its effect on liver fibrogenesis is not known.
Methods: A total of 259 PLWH who were not co-infected with Hepatitis B or C were recruited from the MASH cohort and followed for biomarkers of liver disease for 24 months. Substance abuse was determined with questionnaires and confirmed with urine toxicology. AUDIT was used to determine alcohol consumption. Fasting blood was obtained for biomarkers of liver apoptosis (cytokeratin 18 [CK-18], mitochondrial translocation [LPS, sCD46]), and oxidative stress (plasma glutathione and mitochondrial-specific 8-oxo-dG). Markers of HIV disease were obtained from medical records. Multivariable regression and Mixed Models were adjusted for age, gender, baseline CD4 counts, HIV viral load and alcohol consumption.
Results: Mean age was 47.2±7.75 years, 61% were men, and 77.5% Black. There were 77 PLWH who used cocaine during follow-up, and 182 PLWH who did not use cocaine. HIV viral load was higher (P=0.019) and BMI was lower (P=0.026) among cocaine users. Cocaine users had higher levels of CK-18 (β=23.64, SE=11.53, P=0.041), plasma LPS (β=0.0399, SE=0.0186, P=0.0178), oxidized glutathione (β=0.051, SE=0.0267, P=0.049) and mitochondrial-specific 8-oxo-dG (β=0.052, SE=0.026, P=0.048), compared to cocaine non-users. CK-18 was higher with more frequent cocaine use (OR=5.45, 95% CI:1.07, 28.2, P=0.042) and was significantly related to FIB-4 (β=19.438, SE=4.1131, P<0.0001) over a 24-months of follow-up.
Conclusions: Cocaine use was significantly associated with higher HIV viral load and lower BMI. Cocaine users had higher levels of liver apoptosis, plasma LPS, and oxidative stress compared to those who did not use cocaine. Moreover, more frequent use of cocaine was associated with higher levels of liver apoptosis and with the progression of liver fibrosis over a 24-months of follow-up. Effective interventions to reduce cocaine consumption and target the biomarkers of liver fibrogenesis are needed to prevent complications of liver disease in PLWH.

TUPEC173
HIV RISK BEHAVIOURS AMONG FEMALE INJECTING DRUG USERS IN INDONESIA
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Background: Injecting drug users in Indonesia have an HIV prevalence rate of 36.4%. HIV transmission risk among female injecting drug users remains neglected in prevention research and in the national HIV response. The Perempuan Bersuara study examined HIV risk behaviors in the country’s largest sample of active female drug injectors.
Methods: 731 female injecting drug users were recruited using respondent driven sampling from urban sites in Jakarta, West Java and Banten provinces between September 2014 and May 2015. Women were interviewed by trained peer fieldworkers using a structured questionnaire with standardized scales. The questionnaire included items on sexual and injection-related HIV risk and potential risk factors at the individual, interpersonal and structural levels. Descriptive statistical analyses were performed using STATA.
Results: Self-reported HIV prevalence was 47% (N=341). Women in the sample reported high injection-related risk as measured by injecting with someone else used syringe and by sharing other injecting equipment such as filters, spoons/mixing containers and water used in drug preparation in the previous 30 days. Among sexually-experienced women (N=728), about 4 in 10 reported having multiple sexual partners (N=301; 41.4%). More than 1 in 3 women (N=250; 34.3%) reported engaging in transactional sex in the previous year. Rates of physical, injurious and sexual intimate partner violence were high at 51.9% (N=380), 35.9% (N=263) and 32.5% (N=237), respectively. Verbal, physical and sexual police harassment was reported by approximately 6 in 10 women who came into contact with law enforcement in the last year (63.8%, 210/329).
Conclusions: Female injecting drug users experience double HIV risk related to both sexual and injecting risk behaviours at multiple levels. HIV prevention programmes in the Indonesian context should acknowledge female injecting drug users as a distinct risk group requiring targeted intervention. High rates of intimate partner violence and police harassment in this sample warrant further attention in research and practice.

EPIDEMIOLOGY OF HIV IN MALE, FEMALE AND TRANSGENDER SEX WORKERS
TUPEC174
PREVALENCE OF HIV AND ASSOCIATED RISKS OF COMMERCIAL SEX WORK AMONG YOUTH IN THE SLUMS OF KAMPALA
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Background: Youth who engage in sex work are a key target population for HIV prevention because they are disproportionately burdened by HIV. The purpose of this analysis is to examine the prevalence of HIV among youth engaging in sex work in Kampala, Uganda, and to determine the psychosocial and environmental factors associated with increased risk.
Methods: Analyses are based on a cross-sectional survey data conducted in March 2014. Participants comprised a convenience sample (N=1,134) of urban service-seeking young people (aged 12-18 years, 56.1% female and 43.9% male) living on the streets or in the slums, who were participating in a Uganda Youth Development Link drop-in center. Bivariate and multivariate logistic regression analyses were conducted to examine factors associated with sex work (gender, age, education, parental drunkenness, parental living status, alcohol use, HIV/STIs, previous rape, parental abuse of youth and experiencing suicidal ideations). IRB approvals were obtained from the Georgia State University and the Uganda National Council for Science and Technology.
Results: Among young people interviewed, 13.7% who have ever had sexual intercourse said they were engaged in sex work. The prevalence of self-reported HIV among these youth was 22.5%. The majority of youth started sex work between the ages of 15-16 (75.6%) and most were female (93.8%). Most of the youth were also paid by money for sex (97.5%), but a large portion of youth were paid in alcohol (40.7%). Engaging in sex work was associated with being female (AOR 9.0; 95% CI: 3.4, 24.0), being an orphan (AOR 3.3; 95% CI: 1.4, 7.5), ever drinking alcohol (AOR 6.8; 95% CI 2.9, 15.9), experiencing any rape (AOR 4.9; 95% CI: 2.7, 9.0), and having suicidal ideations in the previous year (AOR 1.8; 95% CI: 1.02, 3.4).
Conclusions: The prevalence of involvement in sex work is very high among youth in the slums of Kampala and is associated with a range of health risk and mental health concerns. In particular, the high level of HIV, alcohol use, and suicidality warrants immediate attention to reduce risk of further exacerbated health concerns, HIV transmissions, and mortality in this vulnerable population.

TUPEC175
HIV AND SEXUALLY TRANSMITTED INFECTIONS AMONG FEMALE SEX WORKERS IN IRAN: FINDINGS FROM THE 2010 AND 2015 NATIONAL SURVEILLANCE SURVEYS
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Background: Female sex workers (FSWs) acquire and transmit HIV and other sexually transmitted infections (STIs) through unsafe sex and injection with their partners. The 2010 and 2015 surveys assessed the prevalence of HIV and other STIs (only in 2015) in FSWs in Iran.
TUPEC176
INCIDENCE AND TIME-VARYING PREDICTORS OF HIV AND SEXUALLY TRANSMITTED INFECTIONS (STIs) AMONG MALE SEX WORKERS IN MEXICO CITY
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Background: Male sex workers (MSWs) are a vulnerable population for acquisition of HIV/STIs. We estimated HIV/STI incidence rates and identified time-varying predictors of STI acquisition among MSWs in Mexico City.

Methods: MSWs recruited from ClínicaCondesa HIV Testing Clinic and community sites in Mexico City were tested and treated for STIs (chlamydia, gonorrhea, syphilis, and HIV) and viral hepatitis (hepatitis B and C) at a baseline, 6-month follow-up, and 12-month follow-up clinic visits. We estimated incidence rates and calculated 95% confidence limits using a bias corrected and accelerated bootstrap method with 1,000 replications. We used mixed effects logistic regression with individual fixed effects to examine unadjusted and multivariable adjusted time-varying predictors of incident STIs.

Results: Among 227 eligible participants, the median age was 24 and baseline HIV prevalence was 32%. Incidence rates were as follows: HIV (5.28 per 100 person-years [PY]; 95% CI: 2.25, 11.75), chlamydia (4.63 per 100 PY; 95% CI: 2.10, 9.09), gonorrhea (3.92 per 100 PY; 95% CI: 1.88, 7.58), active syphilis (12.44 per 100 PY; 95% CI: 8.17, 18.51), hepatitis B (3.52 per 100 PY; 95% CI: 0.52, 5.01), hepatitis C (0.96 per 100 PY; 95% CI: 0.40), and any STI except HIV (21.00 per 100 PY; 95% CI: 15.80, 30.69). In unadjusted mixed effects models, risk of incident STIs did not vary by older age, marriage, engagement in a stable romantic relationship, offering services to five or more clients, alcohol use, polysubstance use, sexual assault perpetration, condom use, provision of penetrative sex, or provision of receptive sex. However, risk of STIs did differ by educational attainment and was lower among those who completed high school (adjusted OR [AOR]=0.23; 95% CI: 0.06, 0.93) or college/post-graduate education (AOR=0.37; 95% CI: 0.03, 0.93) persisted in the multivariable adjusted model.

Conclusions: HIV/STI incidence is high among MSW in Mexico City. Education appears to be an important potential predictor of HIV/STI infections, and may be an important component of effective and structural interventions to prevent infections.
TUPEC178
HIV PREVALENCE AND UNPROTECTED ANAL INTERCOURSE AMONG MSM IN JAPAN: A SYSTEMATIC REVIEW

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Background: In Japan, HIV infection is prevalent in men who have sex with men (MSM), who constitute the greatest number of the cumulative 24,000 reported HIV cases and accounted for 72% of cases in 2014. Despite high infection numbers, understanding of the burden of HIV among MSM in Japan remains limited. We aimed to assess the HIV burden and risk behaviors, specifically unprotected anal intercourse (UAI), among MSM in Japan in order to inform HIV programs.

Methods: We searched PubMed, Embase, Ichushi-Web (a database of Japanese biomedical literature), and the Ministry of Health, Labour and Welfare Grants System database (MHLW), which contain technical reports, published up to December 15, 2015. Studies of any design that measured the prevalence of HIV and UAI and associated factors among MSM across Japan, published in English or Japanese, were included. We used Comprehensive Meta-Analysis Version 3 to obtain HIV prevalence and 95% confidence intervals (CI).

Results: 33 were related to HIV infection and 94 to UAI. Ninety percent of studies were from MHLW, and almost all studies applied conventional sampling methods. The pooled HIV prevalence was 2.9% (CI: 2.5-3.3) across Japan. City-level HIV prevalence was highest in Tokyo (6.7%; CI: 4.6-8.9), followed by Osaka (3.5%; CI: 2.9-4.1), Yokohama (2.9%; CI: 1.4-4.3), Nagoya (2.2%; CI: 1.7-2.6), and Okinawa (1.8%; CI: 0.4-4.7). Simulation studies estimated HIV prevalence reaching 10% by 2040. We were unable to locate studies on HIV-associated risk factors. UAI prevalence in the past 6 months was high, ranging from 41.2-84.5%. UAI prevalence was higher among men having sex with regular male partners than with casual partners. Four studies reported on risk factors of UAI, which is strongly associated with self-perception of not being at risk, increased number of partners, and drug use.

Conclusions: HIV and UAI among MSM is an emerging public health concern in Japan. The problem is likely to increase in the future if no action is taken. Practical interventions and rigorous studies (population-based) to inform interventions are needed.

TUPEC179
EPIDEMIOLOGICAL SYNERGY: THE ROLE OF HETEROSEXUAL HIV TRANSMISSION IN THE SPREAD OF HIV AMONG MEN WHO HAVE SEX WITH MEN IN SOUTH AFRICA

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Background: South African men who have sex with men (MSM) have among the highest HIV prevalence levels in MSM populations globally, but the reasons for this are not well understood. Previous mathematical models have not accounted for interactions between MSM and heterosexuals in generalized HIV epidemics.

Methods: An agent-based model of the heterosexual HIV epidemic in South Africa was extended to include MSM, with distinction between ‘gay’ men (always homosexual and bisexual) and ‘bisexual’ men (propensity for same-sex activity changing over the life course). The model was calibrated to HIV prevalence and sexual behaviour data from South African studies of MSM, as well as data on HIV prevalence in the general population.

Results: Of 127 selected publications, 33 were related to HIV infection and 94 to UAI. Consistent with MSM surveys, the model estimates that a high proportion of South African MSM are bisexual, and MSM sexual activity is concentrated at young ages. Median HIV prevalence in MSM in 2010 is estimated at 28.2% (IQR: 27.4-28.9%), compared to 14.2% (IQR: 13.6-14.6%) in all men aged 15-49. When the model was used to simulate a counterfactual scenario in which heterosexual transmission was set to zero (mimicking a concentrated epidemic setting), median HIV prevalence in MSM declined to 10.7%, with the proportional reduction in prevalence being substantially greater in bisexual men than in gay men (Figure).

Male-to-male transmission in the counterfactual scenario was 50% lower than that in the main scenario.

Conclusions: The extremely high levels of HIV prevalence in South African MSM are to some extent due to the high level of HIV prevalence in the general population, and are not only the result of risk behaviours specific to MSM. Interventions to reduce male-to-male transmission among MSM should not ignore the substantial acquisition of HIV from female partners.

TUPEC180
SOCIAL NETWORK CHARACTERISTICS AND HIV INFECTION AMONG OLDER BLACK SOUTH AFRICAN MSM

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Background: Studies conducted among populations of MSM in sub-Saharan Africa primarily reach young MSM; older MSM who have participated were found to have an increased risk of HIV infection. The current study aims to explore the social network characteristics, HIV status, and potential causal pathways for HIV infection among older black South African MSM.

Methods: An HIV prevalence study with behavioral survey was conducted using respondent-driven sampling among 480 black MSM in Tshwane, South Africa. Social network characteristics were calculated using recruitment ties among participants. Multivariate analyses were conducted using ordinary least squares regression models.

Results: The overall mean age was 24 years. Eighteen percent (18%) were thirty years or older.

Older men (≥30) did not differ from younger men in social network size (p=0.99) or the number of men they recruited into the study (p=0.42). Older men were more likely to refer another older man (60% vs. 16%, p<0.001) and be referred by another older man (49% vs. 15%, p<0.001). Thirty percent (30%) of men were HIV positive. Older men were more likely to be HIV infected (48% vs. 27%, p<0.001). Older age was a risk factor for HIV infection (aOR=2.5, 95%CI: 1.6-4.1, p<0.001). While older men reported more UAI over the past 6 months (mean=20 vs. 10, p=0.02), this nor any other characteristic mediated their risk for HIV infection.

Conclusions: Older MSM were under-represented in this study and were found to bear a disproportionate burden of HIV infection. While older men reported more frequent UAI, this nor other HIV risk factors explained their increased burden of HIV infection. Our findings suggest the need to find effective ways to include older MSM in research in order to achieve more representative samples. This might also benefit prevention efforts as these are likely to be confronted with the same problem.
TUPEC181

 PANEL CONDITIONING AS A THREAT TO VALIDITY IN SEXUAL BEHAVIORAL TRIALS OF GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN: RESULTS OF THE MEN’S INTERNET III (MINTS-III) TRIAL

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Background: In repeated measurement trials (e.g.,RCTs), the effect of earlier surveys on later results is termed ‘panel conditioning’, ‘time in sample bias’, or ‘re-activity’. Least committed and Black respondents appear to be more susceptible to panel conditioning if incompletely answered surveys are repeated with a subsequent survey. Cognitive Stimulus (CS) model posits that being asked questions (even in surveys) stimulates reflection on behavior, which increases motivation, and behavior change. This potentially explains why answering questions on a survey can substantially reduce risk behavior.

Methods: To study the frequency of panel conditioning on HIV prevention trials of gay, bisexual and other men who have sex with men (GBM), we reviewed ten recent RCTs of sexual risk behavior in GBM. To test panel conditioning directly, the MINTS-III trial was an online RCT (N=1,450 GBM) with three recruitment periods: 6 months before the study (wash-in group), at baseline (traditional group) and a no-baseline immediate post-test group. All participants completed sexual risk assessments every three months until 12 months post-intervention. Results: Operationalizing evidence of panel conditioning as reduced risk behavior in the control arm (T₂-T₁), ten of ten published studies (100%) showed evidence of panel conditioning effects sustained over twelve months. Effect sizes of 5-20% at each time period remained evident both when analyzing frequency totals for the whole sample, and in sub-analyses controlling for attrition.

Conclusions: Panel conditioning is extremely common in HIV prevention trials of GBM producing significant effects sizes. In behavioral trials, the effect sizes observed in MINTS-III appear sufficient to mask intervention effects. In biomedical trials, including those for PrEP, panel conditioning may lead to behavioral compensation being under-reported or missed. Researchers should consider adding wash-in periods covering up to 3 behavioral assessments) when designing behaviorally focused RCTs. Intervention designers should incorporate monitoring risk behavior at regular intervals as it appears a strong intervention component to lower risk behavior.

TUPEC182

LABORATORY-CONFIRMED DIAGNOSES OF AND SELF-REPORTED TESTING BEHAVIORS FOR HIV AND STIs AMONG MSM IN TAJIKISTAN

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Background: Little is known about the prevalence and associations of HIV/STI diagnoses and testing behaviors among men who have sex with men (MSM) in Tajikistan. Methods: A non-governmental organization conducted a cross-sectional study (n=502) of MSM assessing laboratory-confirmed HIV/STI diagnoses, self-reported HIV/STI testing prevalence in the past six months, sociodemographics, HIV/STI risk factors, and victimization/discrimination. Data for this study were collected from March to August 2015. Participants first completed a questionnaire on various topics (e.g., demographics, sexual risk behaviors, and HIV and STI testing behaviors) administered by trained Equal Opportunities staff. Participants on average took 20 minutes to complete the questionnaire. After completing the questionnaire, training staff provided voluntary counseling for HIV/STIs. Participants were then offered to have blood drawn to get tested for HIV and other STIs. A trained nurse from the Tajikistan AIDS Centers administered all blood draws. All men that participated in any part of this study were incentivized with a hygiene package, which included a number of toiletries. All study procedures were approved by the Bioethics Committee of the Academy of Medical Sciences through the Ministry of Health and Social Welfare of the Republic of Tajikistan and the University of Pittsburgh’s Institutional Review Board.

Results: In total, 2.6% were diagnosed with HIV, 2.2% with syphilis, 17.6% with chlamydia, and 56.0% with herpes. Prevalence rates for recent HIV and STI testing were low (35.9% and 14.1%, respectively). In multivariable models, MSM with a high school education or less had lower odds of recent HIV and STI testing compared to men that completed university (odds ratio [OR]=0.43 and 0.23, respectively).

Conclusions: Given the low HIV prevalence, there is an opportunity to extinguish the epidemic before it worsens. Non-governmental organizations are indispensable for expanding testing strategies because they can efficiently reach MSM in Tajikistan.
TUPEC190

FLUCTUATIONS IN DEPRESSION AND HIGH-RISK SEXUAL BEHAVIOR AMONG YOUNG BLACK GAY AND BISEXUAL MEN IN NEW YORK CITY

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Background: Young black gay and bisexual men (YBGM) are one of the only groups with increasing HIV incidence in the United States. This population also has limited access to prevention and treatment strategies. While many studies have shown weak evidence for a relationship between depression and risk behavior, these studies are plagued by methodological problems; findings should be considered inconclusive. YBGM contend with a variety of social and environmental factors that influence mental health, and strengthen a relationship between depression and risk behavior. This study examines associations between within- and between-person changes in depression, and high-risk sexual behavior, among YBGM in New York City.

Methods: Data were obtained from 124 YBGM (mean age = 25 years). Participants completed weekly surveys for 2 months. Self-report measures assessed details of sexual encounters had over the 8-week study time period, including condom use and partner HIV status. Participants also completed brief weekly depression assessments using the K-10 (Kessler et al., 2002) and POMS depression subscale (McNair et al., 1981). Multi-level logistic models were used to examine within- and between-person associations of depression and HIV risk behavior.

Results: Over the 8-week time period, participants reported on 460 sexual episodes (mean = 3.7). Twenty-eight percent of participants reporting having sexual episodes involving serodiscordant condomless anal intercourse (CAI), and 15% reported engaging in high-transmission risk CAI (e.g., HIV- men engaging in receptive CAI with HIV+ partners). Within-person changes in depression were shown to be associated with serodiscordant CAI and high-transmission risk CAI – when participants were more depressed than average (i.e., their-person-mean), they were more likely to report a risk episode (p = 0.01). Additionally, using the K-10, we observed between-person differences were positively related to risk episodes (p = 0.01).

Conclusions: This is one the first to examine the association of within-person changes in depression with HIV risk behavior in YBGM. It contributes new evidence to literature exploring the relationship between depression and sexual risk, and provides direction for intervention. Future research should employ longitudinal designs to explore pathways linking within-person changes in depression with risk behavior.

TUPEC192

RISKY SEX AND HIV ACQUISITION AMONG HIV SERODISCORDANT COUPLES IN ZAMBIA: WHAT DOES ALCOHOL HAVE TO DO WITH IT?

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Methods: We evaluated factors associated with alcohol consumption at baseline, and its effect on having outside sexual partnerships and condomless sex with primary partner using multivariable logistic regression. We analyzed the effect of alcohol consumption on HIV acquisition using multivariable Cox models stratified by gender of HIV-infected partner.

Results: Over one-half of couples were female HIV-positive (n=1656; 54.3%). Only 3.2% women reported getting drunk weekly or daily/almost daily, compared to 33.5% men. Factors associated with women’s alcohol use included older age (aOR=1.03; 95%CI=1.01, 1.05), partner heavy drinking (aOR=4.13; 95%CI=3.26-5.19), and HIV-positive status at baseline (aOR=1.62; 95%CI=1.27-2.05). Among men, heavy drinking was associated with younger age (aOR=0.98; 95%CI=0.96-0.99), age disparity with partner (aOR=1.04; 95%CI=1.02-1.06), STI in last year (aOR=1.21; 95%CI=1.06-1.38), and partner heavy drinking (aOR=2.83; 95%CI=2.00-4.04). Men’s heavy drinking was associated with increased odds of having outside partnerships (aOR=2.02; 95%CI=1.58-2.57) and condomless sex with main partner in past 3-months (aOR=1.61; 95%CI=1.28-2.04) compared to non-drinkers. Women’s heavy drinking was associated with an increased odds of having outside partners (aOR=1.89; 95%CI=1.35-2.64), and condomless sex with main partner in the past 3-months (aOR=1.54; 95%CI=1.31-1.82). Women’s heavy drinking was associated with increased HIV acquisition (aHR=3.71; 95%CI=1.90-7.5). Men’s heavy drinking was associated with increased HIV acquisition (aHR=1.72; 95%CI=1.01-2.93), and transmission to women (aHR=1.42; 95%CI=0.97-2.10) compared to non-drinkers.

Conclusions: Alcohol consumption is a risk factor for outside sex partnerships, condomless sex and HIV acquisition in HIV-serodiscordant couples. Serodiscordant couples should be screened for and counseled about alcohol use risk.

EPIEMIOLOGY OF HIV IN SERODISCORDANT COUPLES

TUPEC191

FACTORS ASSOCIATED WITH FERTILITY DESIRES AND PREGNANCY INCIDENCE AMONG HIV-POSITIVE CONCORDANT AND SERODISCORDANT COUPLES IN RAKAI UGANDA

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Background: In communities characterized by high levels of fertility and HIV infection, it is important to assess factors affecting HIV risk and pregnancy rates. Couples were followed prospectively from 2001 to 2011 and factors potentially influencing pregnancy desire and pregnancy rates were examined.

Methods: We linked longitudinal data from 10 years from the Rakai Community Cohort Study in Rakai, Uganda from HIV negative (M-F-), concordantly HIV-infected (M+F+), and discordant (M+ or F+) couples. We used multinomial regression models to estimate the prevalence rate ratios (PRR) of desiring more children, and pregnancy incidence by couples HIV serostatus.

Results: A total of 2606 couples contributed to 16,399 couple-rounds of observations. Fertility desire decreased with increasing female age and schooling, irrespective of HIV status. Other factors associated with fertility desire (Table 1) were report of non-marital relationships by the male or female partner, the number of co-resident biological children, and whether one or both of the HIV-positive spouses were enrolled in HIV care. Pregnancy incidence was lower among older women and when both partners were HIV positive; pregnancy incidence was higher among women of low and medium SES compared with high SES; women with more than one co-resident child; and women who desired more children. When stratified by couples’ HIV status, pregnancy incidence was higher among HIV serodiscordant couples compared with seroconcordant couples (adjPRR: M+F+1.74(1.01-3.0), M+F-1.73(1.04-2.89).

[Table 1: Prevalence Rate Ratios of Desiring More Children by HIV status of Couples]

<p>| P | Wilson1, G. Stadler2 |</p>
<table>
<thead>
<tr>
<th>M+F+ adjPRR (95% CI)</th>
<th>M+F- adjPRR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.90(0.84-1.1)</td>
</tr>
<tr>
<td>Male</td>
<td>1.11(0.14-1.12)</td>
</tr>
</tbody>
</table>

Non-Marital Relationships (AdjP<0.05)

- 0.01
- 0.01
- 1.2
- 0.01
- 3.5
- 0.30
- 6+
- 0.80
- 0.80
- 0.60

HIV+ spouse in care

Both HIV partners in care

TUPEC193
HIV INCIDENCE AND PREDICTORS OF HIV ACQUISITION FROM AN OUTSIDE PARTNER IN SERODISCORDANT COUPLES IN LUSAKA, ZAMBIA, 1995-2012

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Background: There is limited research on the effect of fertility desire on HIV trans-
misconception and acquisition in sub-Saharan Africa. We evaluated the incidence and pre-
dictors of seroconversion from an outside partner among a long-running cohort of
serodiscordant couples in Zambia.

Methods: Serodiscordant couples were enrolled from couples-counseling and
testing sites in Lusaka, Zambia. Demographic, behavioral, and clinical exposures were
measured. HIV-uninfected partners were re-tested every three months. Ge-
etic analysis classified incident infections as those acquired from the study partner
linked), or acquired from an outside partner (unlinked). Factors associated with
risk to HIV infection were evaluated using multivariable Cox models.

Results: Forty-five unique HIV infections occurred among women (1.58/100-cou-
ple-years [CY]; 95% CI=1.24, 2.11). Risk of male unlinked HIV infection (relative to
non-seroconverting couples) was associated with baseline female alcohol con-
mption (aHR=6.09; 95% CI=2.72, 13.64 and aHR=11.92; 95% CI=5.60, 25.37,
non-seroconverting couples) was associated with baseline female alcohol con-
mption (aHR=6.09; 95% CI=2.72, 13.64 and aHR=11.92; 95% CI=5.60, 25.37,

Conclusions: The strongest predictors of unlinked infection in serodiscordant rela-
tionships were alcohol use, genital inflammation and ulceration prior to infection.
Genital symptoms should be screened for and treated, or treated prophylactically
for HIV-negative partners in serodiscordant couples. The risks of alcohol use should
be included for both partners in risk-reduction counseling.

TUPEC194
HIV TRANSMISSION AMONG FOREIGN-BORN PEOPLE IN THE UNITED STATES

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Background: In the United States, foreign-born persons are disproportionately af-
fected by HIV and differ epidemiologically from U.S.-born persons diagnosed with
HIV. Understanding HIV transmission dynamics among foreign-born persons is im-
portant to guide HIV prevention efforts for these populations. We conducted mol-
cular transmission network analysis to describe HIV transmission dynamics among
foreign-born persons diagnosed with HIV.

Methods: Using HIV-1 polymerase nucleotide sequences reported to the U.S. Na-
tional HIV Surveillance System during 2001-2013, we calculated genetic distance,
identified pairs of linked sequences (representing potential transmission partners) and
examined place of birth (foreign-born vs. U.S.-born) and birth region of poten-
tial transmission partners.

Results: Of 77,686 HIV-1 nucleotide sequences, 12,074 (16%) were from foreign-
born persons. Overall, 28% of foreign-born persons linked to at least one other
person. Of these persons, 25% linked only to other foreign-born, 40% linked only
to U.S.-born, and 35% linked to both other foreign-born and U.S.-born persons. A
higher percentage of women (57%) and persons with infection attributable to het-
erosexual contact (50%) linked only with foreign-born persons. Only 19% of persons
with infection attributable to male-to-male sexual contact linked only with foreign-
born persons. The proportion of potential transmission partners born in the U.S.
varied from 48%-79% by birth region (Figure). Persons born in Africa, the Caribbean,
or Latin America shared the same birth region with most of their foreign-born po-
tential transmission partners.
TUPEC196
LABOR EXPLOITATION AND HIV/STI RISK AND INFECTION AMONG CENTRAL AMERICAN FEMALE MIGRANTS AT THE MEXICO-GUATEMALA BORDER

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Background: Recent reports indicate that increased migration across Central America north to Mexico and the US, is feeding human trafficking and labor exploitation. The International Labor Organization estimates that globally 20.9 million people have been trafficked for forced labor (mostly females), with 2.5 million of these occurring in the United States. The U.S. Census Bureau estimates that in 2010 there were over 11 million foreign-born persons in the U.S., with more than 1 million of these being native-born persons born outside of the U.S. who are migrating. Labor exploitation often involves sexual violence. Sexual violence in the context of migration and sexual exploitation has been found to greatly elevate risk for HIV infection. However, to date limited studies have assessed the HIV risk among migrant women who are exploited for labor in this region.

Methods: This mixed methods study surveyed 200 migrant women (identified via respondent-driven sampling (RDS) across 4 cities along the Mexico-Guatemala border from August 2012-September 2015. The questionnaire included: 1) socio-demographics, 2) labor exploitation, 3) sexual behavior and experiences (including exploitation and sexual violence), and 4) agricultural or domestic work history. 30 in-depth interviews (15 in each country) were conducted with migrant women screening positive for labor exploitation via the quantitative survey. Participants also underwent diagnostic testing for HIV and STIs.

Results: Of the women surveyed, 55.3% reported labor exploitation in the context of agricultural or domestic work in Mexico. Over half (66.8%) migrated as a child and started working prior to age 13. One in 8 participants reported sexual exploitation while working as an agricultural or domestic worker, 64.4% had no education beyond primary school and 14.1% entered sex work after working as an agricultural or domestic worker in Mexico. Of the overall sample 4.6% tested positive to HIV, 16.2% to Syphilis and 4.2% to HCV.

Conclusions: These findings contribute to the dearth of literature on an emerging and neglected social phenomenon. Future research is urgently needed to better understand the temporality and precise nature of observed relations between labor exploitation and HIV/STI risk and infection among migrant women including improving linkages to care in this region.

TUPEC195
DEFINING MIGRANTS AT RISK OF HIV IN EUROPE

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Background: Many European countries consider migrants as an important sub-population in their response to HIV. Despite this, no common definition of a migrant is applied across Europe. We investigate ways of characterising migrant populations at risk of HIV infection in Europe which avoid promoting xenophobia and stigmatisation.

Methods: Computerised and manual literature searches were conducted. Key search terms included HIV, migration, migrants, and Europe. Countries reporting a high number of new HIV diagnoses among migrants were also included as search terms. These included Denmark, France, Germany, Netherlands, Sweden, Switzerland, and the United Kingdom.

Results: Several definitions of migrants were identified which may provide a foundation for public health action. These included country of birth, ethnicity, nationality, and HIV sub-type. The advantages and disadvantages of each definition were considered. Country of birth was shown to highlight heterogeneity of risk according to national HIV prevalence but to mask variations in risk across country-specific sub-populations. Ethnicity was found to be commonly applied in public health research to highlight health inequalities but to group both non-European and European born persons in broad ethnicity categories. Nationality was found to have major limitations in studying the impact of migration on HIV. For example, a non-European born person obtaining citizenship within a European country will be, correctly, reported under their newly acquired nationality. The use of sub-type also had major limitations. Historically the identification of non-B subtypes has been interpreted as representing HIV-infection acquired outside of Europe. However, a number of recent studies have shown non-B subtypes to be prevalent among European born persons. Applied alone, none of the definitions clearly differentiated migrant populations at risk of HIV. Heterogeneity in risk of living with or acquiring HIV can be highlighted when broad ethnicity categories are presented in combination with country or world region of birth.

Conclusions: We identified several definitions of migrants which may provide a foundation for HIV public health action and, if applied sensitively, avoid negative stereotyping. We present evidence for the utility of categorising migrants according to both their ethnicity and country of birth to highlight heterogeneity in risk of acquiring or living with HIV.
Results: 2,351 migrants were recruited [1,683 UK, 329 Belgium, 185 Sweden and 154 Italy]. In all countries, the majority were aged 25-44 years (>70%), heterosexual (>70%) and born in Africa (>60%). Overall, an estimated 38% (range: 32-46%) of diagnostically diagnosed HIV had probably acquired HIV post-migration. The UK had the highest proportion 43% (range: 36-52%) followed by Belgium 29% (26-34%), Sweden 24% (21-30%) and Italy 23% (20-27%). An estimated 42% (203/481; 38-50%) of men who have sex with men probably acquired HIV post-migration compared to 38% (658/1,713; 32-47%) among heterosexual people.

Conclusions: We present for the first time multi-country estimates of probable place of HIV-acyclation among migrants living with HIV in Europe. More than a third of migrants diagnosed in these four European countries acquired HIV post-migration, and this proportion was high in MSM and heterosexuals. Our findings call for targeted prevention efforts to reduce HIV transmission among the migrant populations within Europe.

EPIDEMOLOGY OF HIV IN TRANSENDER PERSONS

TUPEC198
GLOBAL HIV EPIDEMIOLOGY AMONG TRANS POPULATIONS: NEW DATA, UNIQUE VULNERABILITIES

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Background: The rapid increase in research on transgender (trans) populations necessitates an update of global HIV data. Stigma is a significant determinant of health and may drive syndemics of HIV in trans populations. This review synthesizes the most recent epidemiology of HIV and related syndemics in trans populations, describes current gaps in HIV-related research and interventions with trans populations, and makes recommendations to improve the effectiveness of HIV prevention, treatment, and care programs.

Methods: A systematic review was conducted of manuscripts and abstracts published between January 1, 2012 and November 30, 2015. Experts in HIV among transgender populations were contacted for unpublished HIV prevalence data meeting other inclusion criteria. Title and abstract reviews for relevance were conducted on unduplicated references independently by two reviewers, with subsequent full-text review for data abstraction. Studies with original quantitative HIV data were included. Laboratory-confirmed HIV data are presented.

Results: Estimates varied dramatically by location and participant characteristics. In 8 studies in the United States, HIV prevalence in trans feminine individuals ranged from 2.0% in an HIV testing program to 40.1% among sex workers. In 7 Asian studies, prevalence ranged from 0% in a small RDS sample (n=23) to 45.2% in an urban STI clinic. Among 8 studies with trans masculine people, prevalence ranged 0%-4.3% with the highest estimate in those seeking STI screening. See table for summary of syndemics in trans populations.

Conclusions: Trans feminine individuals continue to bear one of the highest burdens of HIV in the world. Data on trans masculine individuals are limited, but suggest potential risk for individuals with non-trans male partners. Addressing HIV-related syndemics and transgender-specific challenges will be critical to ensuring engagement and retention in HIV care and treatment by this very vulnerable population.

EPIDEMOLOGY OF HIV IN OTHER POPULATIONS

TUPEC200
PEOPLE WITH DISABILITIES ARE AT INCREASED RISK OF HIV INFECTION AND ADVERSE SEXUAL HEALTH OUTCOMES: RESULTS FROM THE HANDIVIH STUDY (ANRS 12302)

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Background: Although people with disabilities (PWD) living in resource-limited countries seem to be particularly vulnerable to HIV infection, they have often been left behind in the HIV response probably due to lack of reliable epidemiological data measuring their vulnerability. The HandiVIH study aimed to document the vulnerability of PWD to HIV, and to compare their situation to that of people without disabilities in Yaoundé (Cameroon).

Methods: This cross-sectional survey conducted in 2015 used a two-phase random sampling to recruit adults with disabilities and controls matched for age, sex and residential location from the general population using the Washington Group Disability questionnaire. An HIV test and a life-course history interview were proposed to participants. The analysis uses conditional (fixed-effects) and unconditional logistic regressions.

Results: A total of 807 PWD and 807 controls (52% of women) were included. Among PWD, 23%, 12%, 43% and 21% had visual, hearing, physical and intellectual and/or mental limitations respectively. The proportion of subjects sexually active
was similar among those with physical or visual impairments and their controls (91% vs 92%, p=0.8). However, it was lower among those with intellectual and/or mental impairments (52% vs 87% in controls, p<0.001). The level of knowledge on HIV was lower among PWD (p<0.001). However, this difference was no more significant after adjusting for education (p=0.1).

HIV test results were available for 80% of the subjects. The overall crude HIV prevalence was 3.9%, 95%CI:2.9-5.3 among controls and 6.5%, 95%CI: 4.7-8.3 among PWD (OR=1.67, p=0.05).

Compared to controls, women with disabilities were more frequently involved in sexual relationships in exchange for money (2.46% vs 0.72%, p<0.05). Besides, PWD - especially women - were at increased risk of sexual violence (OR=1.5, p=0.02). The proportion of condom use with casual partner was lower among PWD compared to controls (62% vs 78%, p=0.05) and was associated to the lower education level (p=0.004) and higher rate of sexual violence observed in this group (p=0.004).

**Conclusions:** This study shows that PWD are at increased risk of HIV and of other negative sexual outcomes including sexual violence. Effective preventive interventions are urgent to protect one of the world’s largest minorities.

**TUPEC201**

**ADHERENCE AND VIRAL FAILURE IN ASYMPTOMATIC PATIENTS STARTING ART:**

**THE SWISS HIV CONSORT STUDY**

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**Background:** In response to the TEMPRANO and START trials, the WHO recommended in November 2015 that HIV-infected individuals should begin ART regardless of CD4 cell count. A higher share of individuals initiating ART will be asymptomatic with a preserved immune system. We aimed to explore adherence patterns and clinical outcomes in patients initiating ART according to symptom status.

**Methods:** All ART-naive patients aged ≥18 years, not pregnant, starting ART between January 2003 and July 2014, followed for 21 years and completing ≥21 adherence questionnaire were included. Asymptomatic was defined as CD4-stage A at the time of starting ART. Self-reported missed doses in the last 4 weeks were recorded on each clinical visit. Viral failure was defined as RNA viral load>500 copies/ml after >24 weeks on ART. Cox proportional hazard models were used to assess the association between symptom status and viral rebound.

**Results:** 3457 patients were included. Overall, 2458 (71.1%) individuals were asymptomatic when starting ART with the percentage increasing over time from 49% in 2003 to 85% in 2014 (median CD4 cell count 228 [IQR: 151-359] and 355 [IQR: 215-514] cells/μl respectively). Individuals starting ART when asymptomatic were more often male, younger, better educated and reporting having unsafe sex. Adherence to ART was significantly better in asymptomatic compared to symptomatic patients with missed doses reported in 48% and 55% of patients, respectively (p<0.001). Overall, 581 individuals (17%) experienced viral rebound a median of 1.6 years (IQR: 0.8-3) after starting ART and 35% of failures occurred in the first year on ART. The rate of viral rebound was significantly lower in asymptomatic patients (14.4% versus 22.4%, p<0.001). In survival models adjusting for socio-demographic and treatment variables, starting ART when asymptomatic was an independent predictor of a reduced hazard for viral failure (hazard ratio: 0.83, 95% CI: 0.69-1.00).

**Conclusions:** In the era prior to ‘test and treat’, choosing to start ART when asymptomatic had a positive effect and was associated with better adherence and lower rates of viral failure. However, under current guidelines where asymptomatic patients are recommended to start ART, the question of readiness may become more important.

**TUPEC202**

**THE DIFFERENTIAL IMPACT OF HIV AND ART ON GENDER- AND AGE-SPECIFIC TUBERCULOSIS RATES**

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**Background:** Tuberculosis (TB) rates are higher among men than women, which is thought to be due to social and/or biological differences. Cape Town has a very high burden of TB and HIV. We aimed to investigate the changes in gender and age-specific TB rates, HIV-associated risk of TB and the population attributable risk (PAR) of HIV over time in Cape Town since the onset of the HIV epidemic and the roll-out of antiretroviral therapy (ART).

**Methods:** We used annual TB notifications from the Medical Officer of Health reports (1993) and the metropolitan electronic TB register (2003-2014), and mid-year population estimates from Statistics South Africa. HIV prevalence estimates were sourced from the Actuarial Society of South Africa Western Cape AIDS model 2008. TB notification rates were calculated per 100,000 population and stratified by gender, 10-year age group and HIV status. Annual rate ratios (RR) of TB associated with HIV infection and the annual PAR were calculated by gender.

**Results:** In 1993, TB rates were higher among men than women (146/100,000 versus 247/100,000). By 2009, TB rates increased 5.2-fold (to 758/100,000) among women and 3.7-fold (to 922/100,000) among men. Thereafter TB rates declined by 26% and 16%, respectively, in the HIV-era TB rates peaked at a younger age in women than in men (25-34 versus 35-44 years). The RR of TB associated with HIV infection was 30% higher in women than in men in 2003 (28 versus 17), but decreased to equalisation in 2013 (15 versus 16). More TB disease was attributable to HIV among women than men (53% versus 35% in 2003, 49% versus 37% in 2014).

**Conclusions:** The HIV epidemic led to a greater increase in TB rates among women than men, in keeping with the higher HIV burden among women. Nevertheless, TB rates among men remained higher. HIV infection was associated with higher rates.
of TB in women than men early in the epidemic suggesting HIV removed the protective effect of gender. The recent declining difference is likely caused by differential access to ART. Despite this encouraging trend, TB control programmes need to focus on TB prevention and treatment among young women.

**Epidemiology of Sexually Transmitted Infections (STI) and HIV Co-infection**

**TUPEC204**

**Sexually Transmitted Infections (STI) and HIV Co-Infection Among Youth Living in the Slums of Kampa, Uganda**

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**Background:** The prevalence of co-infection with sexually transmitted infections (STIs) and HIV is high worldwide, particularly in sub-Saharan Africa. Certain STIs increase the risk of acquisition of HIV. However, little is known about HIV/STI co-infection among youth living in the slums of Kampala, Uganda.

**Methods:** IRB approvals were obtained from the National Council for Science and Technology. Participants comprised a convenience sample (N=1,134) of urban service-seeking youth living on the streets or in the slums, 12-18 years of age who were participating in a Uganda Youth Development Link drop-in center (56.1% female and 43.9% male). Multinomial logistic regression was used to determine factors (gender, age, education, condom use, alcohol use, and sex work) associated with reporting HIV/STI co-infection, HIV only, STI only, and neither HIV/STI. IRB approvals were obtained from the Georgia State University and the Uganda National Council for Science and Technology.

**Results:** Among youth who had ever had sex, the self-reported HIV prevalence was 13.2%, and the prevalence of HIV/STI co-infection was 9.9%. STI only prevalence was 42.8%. Among youth who reported HIV/STI co-infection, the majority were female (74.1%) and 18 years old (51.7%). HIV/STI co-infection was associated with being young (AOR: 2.08; 95% CI: 1.04, 4.15), alcohol use in the previous 12 months (AOR: 2.83; 95% CI: 1.43, 5.59), and engaging in sex work (AOR: 2.78; 95% CI: 1.19, 6.49) compared to the absence of HIV/STI. Compared to HIV infection alone, HIV/STI co-infection was associated with being female (AOR: 5.00; 95% CI: 1.62, 15.36). Alcohol use in the past 12 months was also associated with having an STI only (AOR 1.73; 95% CI: 1.17, 2.56) compared to the absence of HIV/STI.

**Conclusions:** Youth living in the slums of Kampala, Uganda have a high prevalence of HIV/STI co-infection. HIV/STI co-infection was also associated with modifiable risk factors that could be addressed to reduce further health complications of their existing health conditions.

**TUPEC205**

**HSV-1 and HSV-2 are Associated with HIV Seropositive Status Among Young Gay, Bisexual, and Other Men Who Have Sex with Men: Preliminary Findings from the P18 Cohort**

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**Background:** There is a strong and consistent relationship between HIV and herpes simplex virus (HSV)-2. Previous analyses from the P18 cohort document racial disparities in HIV incidence for black and multirace/other race YMSM in New York City. At each semi-annual visit, men complete risk assessment surveys and undergo HIV testing. Beginning in October 2015, serologic testing for HSV-1 and HSV-2 was added to the 54-month visit. To date, 108 men have complete data on HSV and HIV.

**Methods:** P18 is an ongoing prospective cohort study of young gay, bisexual, and other men who have sex with men (YMSM) in New York City. At each semi-annual visit, men complete risk assessment surveys and undergo HIV testing. Beginning in October 2015, serologic testing for HSV-1 and HSV-2 was added to the 54-month visit. To date, 108 men have complete data on HSV and HIV.

**Results:** The mean age of the sample is 23.6 years (range 22-25). Most were male (91.4%) and gay-identified (83.7%); 44.3% were Hispanic/Latino, 28.3% were black, 8.5% were white, 7.6% were Asian/Pacific Islander, and 11.3% other race. HIV prevalence was 12.7%. Prevalence of any HSV was 65.7%; 41.7% had HSV-1 only, 12.0% had HSV-2 only, and 12.0% were co-infected with HSV-1 and HSV-2. All 14 HIV+ men were co-infected with at least one HSV type; 35.7% had HSV-1 only; 21.4% had HSV-2 only; and 42.9% were co-infected with HSV-1 and HSV-2. In a multivariate logistic regression model, both HSV-1 and HSV-2 were associated with increased odds for HIV (HSV-1: AOR=5.1, 95% CI=1.2, 2.1, and HSV-1 and HSV-2: AOR=10.3, 95% CI=2.8, 37.7). Race/ethnicity was not associated with HSV-2 infection alone, but blacks were significantly more likely to have HSV-1 (OR=3.1, 95% CI=1.1, 8.7) and HSV-1 or HSV-2 as compared to Hispanics (OR=4.0, 95% CI=1.2, 13.5).

**Conclusions:** These preliminary cross-sectional data suggest that both HSV-1 and HSV-2 are associated with HIV infection among YMSM and that there may be racial disparities in HSV prevalence. HSV may lead to HIV especially since it often goes undiagnosed. Prospective studies are needed to determine whether both HSV-1 and HSV-2 increase risk for HIV acquisition.
TUPEC207
THE SPECTRUM MODEL ESTIMATING NATIONAL SYPHILIS AND GONORRHEA PREVALENCE & TRENDS: RESULTS FOR 10 LOW- AND MIDDLE-INCOME COUNTRIES, AND IMPLICATIONS FOR STRENGTHENING STI SURVEILLANCE

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Background: Estimates of population-level burdens and trends in Sexually Transmitted Infections (STIs) are important to underpin STI control strategies, programs and resource mobilization, and could inform HIV/AIDS surveillance. We developed the first-ever standardized method estimating trends in gonorrhea and active syphilis, anchored on countries’ annual indicator reporting through the Global AIDS Response Progress Reporting System. 

Methods: Gonorrhea prevalence levels and trends were fitted on general adult population prevalence surveys (from the country, neighboring countries and regional estimates; as a moving average, weighting country-owned data heaviest), with trends informed additionally by laboratory-diagnosed gonorrhea and/or urethral discharge case reports where judged of reasonably stable completeness. Syphilis prevalence trends were fitted through logistic regression for pregnant women attending antenatal clinics (two-yearly sentinel surveys, and increasingly routine programmatic screening), weighing each data point by its national coverage and representativeness. Prevalences were adjusted for diagnostic test performance, missing high-risk populations, urban/rural and male/female differences, using WHO’s assumptions from recent global and regional-level estimations. Uncertainty intervals were obtained by bootstrap resampling.

Results: Across Namibia, Zimbabwe, Morocco, Cambodia, Sri Lanka, Indonesia, Cuba, Bolivia, Peru and Mongolia, estimated national gonorrhea prevalences in 15-49 years ranged from 0.49%-7.5% in 2000 and 0.71-6.9% in 2015. Syphilis prevalences were 0.03-6.1% in 2000, and 0.08-4.3% in 2015. Over 2000-2015 estimated syphilis prevalence had declined in 8 countries (by on average 45%), and increased in 2. For gonorrhea, trend lines were less certain.

Conclusions:

1. Country-level syphilis trends and burdens can be estimated based on surveillance and program data, but for gonorrhea rely on non-routine prevalence surveys. Provisional estimates could be improved by national HIV/STI strategic information experts validating and updating input data. The estimation method will be integrated in the Spectrum suite of health estimation and strategic planning tools, informing existing Spectrum modules estimating HIV/AIDS trends and program impacts.

TUPEC208
HIGH PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS IN A COHORT OF SOUTH AFRICAN MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN FROM PORT ELIZABETH AND CAPE TOWN, SOUTH AFRICA

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Background: Though there is little research describing sexually transmitted infections (STI) prevalence among men who have sex with men (MSM) and transgender women (transwomen) in Africa, previous models suggest that an effective comprehensive HIV prevention strategy for this group requires diagnosing and treating STIs.

Methods: The Sibanye Health Project is a one-year prospective study of combination HIV prevention among MSM/transwomen from Port Elizabeth and Cape Town, South Africa. The study conducts baseline screening for prevalent HIV infection, syphilis, gonorrhea and chlamydia. We describe overall STI prevalence by organism and site of infection (urethral/rectal) and stratified by age, city, and HIV status.

Results: From February to September 2015, we enrolled 292 MSM and transwomen, of whom 125 (43%) were living with HIV infection. At baseline, 124 participants (42%) had any type of STI. 34 (12%) had a urethral STI and 60 (31%) had a rectal STI (see Table). Rectal STIs were found in 57% of participants 18-19 years and significantly decreased with older age. Compared to HIV-negative persons, those living with HIV infection were more likely to have had syphilis but were less likely to have had urethral Chlamydia. Of those with a biologically-confirmed STI, 81% (10/124) had a symptomatic STI diagnosis during the clinical assessment.

Conclusions:

Biologically-confirmed STI prevalence is high in this cohort of MSM/transwomen from South Africa, particularly rectal STIs among the youngest groups. The associations between STIs and HIV status may be due to differences in underlying sexual risk behaviors or previous screening/treatment. A comprehensive HIV prevention strategy for MSM/transwomen should include a full set of STI screening, including rectal, and treatment when indicated. These data further suggest that reliance on syndromic surveillance for STI would have missed more than 90% of these infections, highlighting the need for presumptive testing or even presumptive treatment for those at highest risk.

TUPEC209
HIGH RATES OF SEXUALLY TRANSMITTED INFECTIONS: RESULTS FROM THE POPULATION-BASED HOUSEHOLD SURVEY IN KWAZULU-NATAL, SOUTH AFRICA

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Background: South Africa has a high burden of HIV and sexually transmitted infections (STIs), with the province of KwaZulu-Natal (KZN) particularly affected by both epidemics. STIs have been associated with adverse reproductive health outcomes and contribute to an increased risk of HIV acquisition and transmission. Whilst STI data are available from select populations, there is little information on population level prevalence.

Conclusions: Biologically-confirmed STI prevalence is high in this cohort of MSM/transwomen from South Africa, particularly rectal STIs among the youngest groups. The associations between STIs and HIV status may be due to differences in underlying sexual risk behaviors or previous screening/treatment. A comprehensive HIV prevention strategy for MSM/transwomen should include a full set of STI screening, including rectal, and treatment when indicated. These data further suggest that reliance on syndromic surveillance for STI would have missed more than 90% of these infections, highlighting the need for presumptive testing or even presumptive treatment for those at highest risk.

[Sexually Transmitted Infections among Men Who Have Sex with Men and Transwomen, Sibanye Health Project]
We assessed the prevalence of STIs among participants enrolled in the HIV Inci- dence Provincial Surveillance System (HIIPSS), a population-based household survey conducted in the Vulindlela and Greater Edendale sub-districts of uMngundlovu District, KwaZulu-Natal, South Africa.

Methods: In addition to completing a questionnaire, participants aged 15–49 years received clinical specimens including peripheral blood, first-pass urine (males), and self-collected ano-geno-vaginal swab samples (females). STIs included Neisseria gonorrhoeae (NG), Chlamydia trachomatis (CT), Trichomonas vaginalis (TV) and My- coplasma genitalium (MG) (by multiplex PCR of swabs or urine). Sera were tested for evidence of syphilis infection using non-treponemal rapid plasma reagin (RPR) assay and for herpes simplex virus type 2 (HSV-2) antibodies by enzyme-linked im- munosorbent assay.

Results: More than one-third of the 9812 participants were under the age of 25, and two-thirds were females. Prevalence of all STIs was higher in women than men with the exception of M. genitalium, and all STIs were more common in HIV-infected individuals apart from C. trachomatis. HSV-2 antibodies was prevalent in 63% of participants (72% of females and 46% of males, p < 0.001). Syphilis antibodies were prevalent in 2.9% (3.1% in females and 2.5% in males). N. gonorrhoeae, C. trachomatis, and M. genitalium were present in 3.0%, 7.6%, and 5.4% of participants, respectively. Each reached peak prevalence in women aged 20–24 (6.2%, 15.1%, and 8.5% for NG, CT, and MG, respectively), whereas for men this peak prevalence occurred at age 25–29 (and 30–34 for MG). T. vaginalis was detected in 11.7% of participants, with a prevalence of 15.9% in females and 4.3% in males.

Conclusions: STIs are common in this population-based survey of a high HIV bur- den region. Strategies to better diagnose and manage these infections are urgently needed.

TUPEC11
ASSOCIATIONS BETWEEN HPV AND HIV AMONG YOUNG, GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN: PRELIMINARY FINDINGS FROM THE P18 COHORT STUDY

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Background: A growing body of literature suggests a relationship between human papillomavirus (HPV) infection and HIV. However, few studies have examined the relationship between site-specific and type-specific HPV infections and HIV among young men who have sex with men (YMSM). Given the high infectivity of HPV as well as its association with anal, penile and oropharyngeal cancer, more information on the relationship between HPV and HIV among YMSM is especially warranted.

Methods: Participants were enrolled in the P18 study, a prospective cohort study of health states among young gay, bisexual and other men who have sex with men. Beginning in October 2015, HPV DNA testing via nucleic acid hybridization assay was initiated at the 54-month visit. To date, n=108 YMSM have provided samples for oral HPV and n=99 for anal HPV testing.

Results: In this sample of YMSM (mean age 24 years old; 48.2% Hispanic/Latino, 32.4% Black, 9.3% White, 10.2% Asian/Pacific Islander or other race) HIV preva- lence was 13.0%. For anal HPV, overall prevalence was 38.2%; by type, prevalence of high-risk strains was 24.5% and 17.3% for low-risk strains. For oral HPV, overall prevalence was 6.4%; by type, prevalence of high-risk strains was 3.6% and 1.8% for low-risk strains. Additionally, 11.8% of this sample tested positive for quadrivalent vaccine preventable strains (6,11,16,18) while 21.6% tested positive for the nonava- lent vaccine preventable strains (31,33,45,52,58). Finally, the presence of anal HPV (any type) was associated with an HIV seropositive status (OR=5.63, 95% CI=1.44, 21.97; p=0.013) as was the presence of oral HPV (OR=12.13, 95% CI=2.37, 62.12; p<0.001).

Conclusions: Our findings provide evidence of high HPV prevalence in YMSM by site (anal/oral) and type (low/high risk strain) as well as for vaccine preventable strains. First, as anal, oral, and oropharyngeal cancers are significant sequelae of HPV infec- tion, further investigation to examine vaccine uptake in YMSM is warranted. Sec- ond, the strong associations between HIV and both anal and oral HPV in this new generation of YMSM warrant further investigation to understand how site-specific HPV is associated with increased risk for HIV as well as to understand how HPV persistent is associated with HIV infection.

TUPEC12
ANOGRAPHAL HPV INFECTION AND ASSOCIATED DISEASE IN HIV-POSITIVE MEN IN JOHANNESBURG, SOUTH AFRICA

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Background: Persistent high-risk human papillomavirus (HR-HPV) infection is asso- ciated with anogenital and oropharyngeal cancers in men, particularly in men living with HIV/AIDS (MLWHA). We report on baseline results of a prospective study in MLWHA to determine the impact of the HIV on the burden and natural history ano- genital HPV infection and disease.

Methods: We enrolled 304 sexually active consenting MLWA ≥18 years. Socio-be- havioral data was collected by questionnaire. Trained clinicians examined for ano- genital warts (AGWs) and cytological abnormalities were prevalent among MLWHA. We report on baseline results of a prospective study in MLWHA to determine the impact of the HIV on the burden and natural history ano- genital HPV infection and disease.

Results: Participants median age was 38 (IQR 10) years. Most (65%) participants were on ART with a median duration of 33 (IQR 42) months, and 20% of those on ART for > 12 months had undetectable VL (i.e. < 40 copies/ml). Among those with anogenital warts results, 79% had HPV detectable, 52% had HR-HPV and 64% had LR-HPV. The prevalence of AGWs was 12%. Infection with HPV 6 [OR=3.79 (1.4–9.9), ≥1 LR types] [OR=42.67 (14.06-129.48)] and being ≥ 6 months on ART [OR=6.56 (1.66-22.97)] were associated with AGWs. VL [OR=0.93 (0.93-9.2)] at baseline was not associated with AGWs. Among those with anal swab results, 39% had HPV detectable, 14% with >1 infection; 24% had HR-HPV while 5% had LR-HPV. HPV 6 (8%) was the most commonly detected type; 30% had HPV detected in both anal canal and genitalia with 21% having type concordance. 44% of those with HPV detected had an abnormal anal smear (10% ASCUS and 34% LSIL). 262 anal smears were analysed. 8% were of poor quality, 47% were normal, whilst 18% and 27% were ASCUS and LSIL respectively. There were no HSILs. Infection with ≥ 1 HR types [OR=1.71 (1.04-2.81)] was associated with abnormal cytology, VL [OR=0.52 (0.12- 2.5)] at baseline was not associated with abnormal cytology.

Conclusions: AGWs and cytological abnormalities were prevalent among MLWHA. Infection with ≥ 1 HPV type was associated with disease. Further research is needed to understand incidence, persistence and progression of infection and disease to inform future prevention strategies.

EPIDEMIOLOGY OF VIRAL HEPATITIS AND HIV CO-INFECTION

TUPEC12
DEVELOPMENT AND VALIDATION OF A RISK SCORE TO ASSIST TESTING FOR ACUTE HCV INFECTION IN HIV-INFECTED MSM

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Background: Current guidelines recommend annual hepatitis C virus (HCV) testing of HIV-infected men who have sex with men (MSM) with ongoing risk behavior, without specifying the type of risk behavior. To improve early detection of HCV, de- velopment of clear-cut recommendations is relevant. Therefore, we developed and validated a risk score to assist HCV testing in HIV-infected MSM.

Methods: The risk score was developed using data from a Dutch case-control study of HIV-infected MSM with and without an acute HCV infection (MOSAIC study). Self-administered questionnaires on recent sexual behavior were collected and risk factors for HCV were determined using multivariable logistic regression. For each patient an individual risk score was calculated by summing the β-coefficients of all significant risk factors reported by that patient. Using ROC curves, an optimal cut- off for the risk score to predict acute HCV infection was determined, defined as the
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TUPEC214 MORTALITY RISK OF NON-AIDS NON-HODGKIN’S LYMPHOMAS AMONG HIV-INFECTED HISPANICS ADULTS IN THE COMBINATION ANTIRETROVIRAL THERAPY ERA

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Background: HIV associated immune dysfunction is related to an increased risk for the development of malignant disorders, including the non AIDS defining non-Hodgkin’s Lymphomas (NAD-NHL). Multiple spectrum antiretroviral therapy (ART) and its use in combination (cART) have resulted in a dramatic reduction in HIV viremia with improvement in the immunological function and an increment in overall survival. The presence of malignant transformation in HIV infected patients often severely curtails their survival and results in significant morbidity. Our study evaluates the NAD-NHL mortality risks in a Hispanic cohort of HIV infected adults. Methods: The database of the HIV infected adults (>20 years) followed in the Retròvirus Research Center at Bayamón, Puerto Rico was matched with the Puerto Rico Central Cancer and Mortality Registries databases. Six and twelve months mortality after NAD-NHL diagnosis were evaluated. Cox proportional hazard analyses including age, sex, smoking, injecting drug use (IDU), CD4 cell count < 200, and cART prescription were used to evaluate mortality risk. Results: Of the 3,433 HIV adults followed between Jan 1996 and Dec 2013, 31 (0.9%) had a validated NAD-NHL diagnosis. Of them, 67.7% were male, 58.1% smoked, 35.5% were IDUs, 9.7% had one previous AIDS defining condition, 71.0% had a CD4 cells count < 200 and 77.4% received cART prior to diagnosis. The mean age at NAD-NHL diagnosis was 45.6 years and the mean HIV disease duration was 5.4 years. The 6 and 12 months mortality were 64.5% and 74.2% respectively. Higher 6 and 12 months mortality risk were significantly associated with CD4 cell counts < 200 (HR=4.5; 95% CI: 1.2-16.9 and HR=5.1; 95% CI: 1.25-17.3, respectively) and IDU (HR=3.6; 95% CI: 1.12-11.3 and HR=4.1; 95% CI: 1.2-14.5, respectively). The use of cART was not significantly associated with the mortality risk variation. Conclusions: High NAD-NHL mortality risks in the cART era is suggestive of the role of oncogenic risk factors, inadequate cancer prevention, and inadequate cART adherence that could contribute and accelerate the malignant transformation risk among these vulnerable individuals. Adequate and opportune HIV and NAD-NHL diagnosis and treatment are important to reduce this mortality trend, and are highly recommended.

TUPEC2215 NON-COMMUNICABLE CHRONIC DISEASES IN HIV-INFECTED PATIENTS IN MALAWI AND THE IMPACT OF ANTIRETROVIRAL THERAPY

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Background: The burden of non-communicable chronic diseases (NCDs) is increasing in sub-Saharan Africa, and is becoming significant cause of morbidity and mortality. More data are needed in the HIV population to inform evidence-based policies addressing these conditions. The objective of this study was to assess the prevalence of hypertension, raised blood glucose, obesity, and renal dysfunction in a population of HIV-positive patients naïve to antiretrovirals and to assess the impact of 6 years of ART on these parameters.

Methods: Methods A retrospective analysis was performed of routinely collected data of HIV-positive patients starting antiretroviral treatment in Malawi within the DREAM Program from January 2006 to May 2015. Measurements, including blood pressure, random blood glucose, body mass index (BMI) and estimated Glomerular Filtration Rate (eGFR), were obtained at baseline (before treatment start) and every year for up to 6 years of antiretroviral therapy (ART). Multiple logistic regression models were used to identify factors associated with NCDs and the Cox model was used to assess predictors of survival in the cohort.

EPISTEMOLOGY OF OTHER DISEASES AND HIV CO-INFECTION

TUPEC223 ANXIETY AND MOOD DISORDERS AND HOSPITALISATION IN HIV-INFECTED AND -UNINFECTED GAY AND BISEXUAL MEN

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Background: Prevalence of anxiety and mood disorders (AMDs) in HIV-infected individuals has varied widely due to the variety of measurements used for assessment and differences in risk factor profiles between different populations. We aimed to address the question of whether HIV-infection was an independent risk factor for hospitalisation for AMDs in gay and bisexual men (GBM).

Methods: HIV-infected (n=557) and -uninfected (n=1325) GBM recruited in Sydney, Australia were probabilistically linked to their hospital admissions and death notifications (2000-2012). Random-effects Poisson models were used to assess risk factors for hospitalisation. Cox regression methods were used to assess risk factors for mortality.

Results: We observed 300 hospitalisations for AMDs in 15.3% of HIV-infected and 181 in 5.4% of -uninfected participants. Being infected with HIV was associated with an increased risk of hospitalisation for AMDs in GBM [IRR: 2.49 (95%CI: 1.47-4.21)]. Other factors which conferred an increased risk included being unemployed [2.41 (1.41-4.21)], identifying as bisexual or ‘other’ compared with gay, queer or homosexual [5.24 (2.34-11.74)], having a religious belief [2.21 (1.40-3.49)], having previously sought counselling for mental health [4.25 (2.06-8.71)], and being a daily smoker [1.94 (1.22-3.08)]. In the HIV-infected cohort, previous hospitalisation for HIV-related dementia was also associated with hospitalisation for AMDs [IRR: 3.08 (95%CI: 1.78-5.30)], as was a more recent HIV-diagnosis [linear trend p-value=0.025] and a CD4 T-cell count above 350/mm³ [CD4 cell count 351-500: IRR 0.20 (95%CI 0.07-0.56); 501-750: 0.33 (0.13-0.85); over 750: 0.23 (0.08-0.63)]. Being hospitalised for an AMD was associated with increased risk of mortality [HR 5.48 (95%CI 1.88-8.05)]; this association did not differ by HIV status. Alcohol use was listed as the primary or secondary cause of death for 42.1% HIV-infected and 50.0% -uninfected participants hospitalised for AMDs.

Conclusions: Our findings support a higher prevalence of AMDs in HIV-infected compared to -uninfected GBM. There is a need to provide more effective strategies to identify and treat AMDs in HIV-infected GBM and to better understand causes of increased risk in this population at different stages of infection. Our research highlights the importance of further examination of the effects of substance use, neurocognitive decline and AMDs on the health of HIV-infected individuals.

Development study Validation studies

<table>
<thead>
<tr>
<th>MOASIC (N = 213)</th>
<th>Belgium (N = 142)</th>
<th>UK (N = 190)</th>
<th>STI-clinic Amsterdam (N = 284)</th>
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<tr>
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<tr>
<td>HCV negative (n)</td>
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<td>Proportion with a risk score of ≥ 2.0 (% to be tested)</td>
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<td>49%</td>
<td>59%</td>
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<tr>
<td>Area under the ROC curve (95% CI)</td>
<td>0.82 (0.76 - 0.88)</td>
<td>0.74 (0.66 - 0.83)</td>
<td>0.82 (0.76 - 0.88)</td>
</tr>
</tbody>
</table>

Table. Performance of the HCV risk score among HIV-infected MSM in the development and validation studies

Abstract Book | www.aids2016.org
**Results:** Results: A total of 6297 patients, mean age 37 years, females 57.4%, were studied. At baseline the prevalence of hypertension was 10% (grade II hypertension was 5.2%), diabetes was present in 0.3%, obesity in 1.8%, eGFR < 60 ml/min in 16.9% of the subjects. Increasing age, male sex and higher BMI were correlated to both hypertension and diabetes at baseline. After 6 years of ART the prevalence of hypertension was unchanged, diabetes and obesity slightly increased (1.3% and 3.6% respectively) and the proportion of patients with renal dysfunction strongly decreased (8.9%). Male sex (P=0.017), increasing age (P=0.001) low baseline BMI (P<0.001), low baseline hemoglobin (P=0.001), the presence of diabetes at baseline (P=0.001) were all independent predictors of mortality in the cohort.

**Conclusions:** Conclusions: Diabetes and obesity were rare in this HIV-infected population, the prevalence of hypertension was moderate while decreased renal function was common. Antiretroviral therapy had a modest impact on these conditions, with the exception of renal function which significantly improved. These findings are reassuring in a perspective of general progressive expansion of ART to all HIV-infected people.

**Molecular Epidemiology**

**TUPEC216**

**Clinical characteristics, transmitted drug resistance mutations (tDRM), subtypes and treatment initiation among newly identified infections in São Paulo Reference Center, Brazil.**

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**Background:** Acute and early HIV is a pivotal phase during HIV infection, but in many situations it is still undiagnosed, limiting linkage to care, and antiretroviral therapy initiation, that could both benefit patient and help controlling the epidemic. Our objective was to evaluate clinical and laboratory characteristics of an active effort to recruit newly diagnosed patients in the São Paulo Reference Center.

**Methods:** Consecutive patients with a recent positive HIV test were recruited. At entry, clinical exam, CD4 (flow cytometry, BD), viral load (RT-PCR-Abbott) and HIV genotyping (RT-PCR followed by nested PCR and big dye, Life) were performed. Sequences were evaluated at Stanford-db (CPR and GRI) and Rea and NCBI was used for genotype.

**Results:** 386 patients were included from November 2013 to December 2015, mean age 28 yo (25-34), mostly male (95.8%), the majority MSM, with a median CD4 514 (25.9-75.9), 327-666) and viral load of 4.3 (3.8-4.9) at inclusion. A previous seronegative test was reported by 236(61%), with a mean time to a positive test of 398 days (197-731). Most common acute infection-like manifestations, observed in 126 cases, were: fever 54%, lymphadenopathy 42%, malaise 41%, myalgia 38% and pharyngitis 34%. Patients were included at a median of 38 days (26-61) after diagnostic. Of 341 sequences evaluated at CPR, TDRM was identified in 11.2 % (NNRTI 6.7%, NRTI 3.9%, PI 1.8%, including 10.3%, with NRTI+NNRTI TDRM). K103N was the most common TDRM. When any resistance mutation was considered, 26.4% of the sequences had at least one mutation to NNRTI, NRTI or a major PI. Subtype B was the most prevalent (74.6%), subtype C 11.3%, F 3.3%, one (0.4%) G and different recombinant forms (10.4%), mostly BF or BC. The median proportion of nucleotide ambiguities was 0.2% (25th-75th 0 - 0.55%); ARV was initiated in 79%. The most commonly used ARV regimens were EFV+3TC+Tenofvir, in 77.7%, and ATZ/r+3TC+TDF, in 12.7% Patient’s with DRM received (or changed upon availability of genotype test), a regimen appropriate for the resistance profile.

**Conclusions:** TDR is at intermediate levels but higher than previous studies, with subtype C increasingly being recognized.

**TUPEC217**

**Analysis of massively parallel sequencing of HIV-1 proviral genomes reveals high genetic diversity among Brazilian blood donors with long-standing infection.**

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**Background:** Here, we aimed to gain a comprehensive picture of the HIV-1 diversity in the northeast and southeast part of Brazil. To this end, analysis of massively parallel sequencing “MPS” data were performed to characterize the near full length (NFLG) and partial HIV-1 proviral genomes in 194 HIV-1 infected blood donors with long-standing infection at four major blood centers in Brazil: Pro-Sangue foundation (São Paulo state (SP), n 50), Hemominas foundation (Minas Gerais state (MG), n 28), Memoria foundation (Recife state (PE), n 78) and Hemorio blood bank (Rio de Janeiro (RJ), n 38).

**Methods:** The MPS data covering the NFLG and partial genomes were extracted from our recently generated HIV-1 genomes sequenced by a paired-end protocol (Illumina). Validated fastq files from each viral genome were de novo assembled into contiguous sequences and used for further analysis.

**Results:** Of the 194 samples studied, 161 (83%) NFLGs and 33 (17%) partial fragments were de novo assembled into contiguous sequences and successfully sub-typed. Of these 194 samples, 130 (67%) were pure subtypes consisting of clade B (n = 121, 62.4%), C (n = 6, 3.1%), F1 (n = 2, 1%), and 0 (n = 1, 0.5%). Recombinant viruses were detected in 64 (33%) samples and consist of unique F1 (n = 35, 18%), BC (n = 7, 3.6%), BF1 (n = 4, 2%), CF1 and CDK (n = 1, 0.5%, each), CRF70_BF1 (n = 3, 1.5%), CRF71_BF1 (n = 10, 5.1%), and CRF72_BF1 (n = 3, 1.5%). Evidence of dual infection was detected in four patients coinfected with the same subtype (n = 3) and distinct subtype (n = 1).

**Conclusions:** The overall results revealed a broad array of 12 genetically different HIV-1 variants consisting of four genuine subtypes, three circulating recombinant forms, and fivevariants with different recombinant profiles. The elevated number of HIV-1 subtypes co-circulating as well as diverse recombinant viruses observed in this work may represents a tangible challenge for future vaccine development, as well as for the efficiency of antiretroviral treatment and diagnostic tests.
**TUPEC219**

**ANALYSIS OF HIV-1 SUBTYPE C ENVELOPE SEQUENCE DIVERSITY IN THE FEMALE GENITAL TRACT FROM EARLY INFECTION REVEALS NO EVIDENCE FOR COMPARTMENTALIZATION**

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**Background:** The majority of HIV-1 infections in sub-Saharan Africa are acquired heterosexually through the genital mucosa. A better understanding of the properties of the viruses replicating in the genital tract is important as these viruses are the target of microbiocides and vaccine strategies. However, such samples are more difficult to access and viral loads are considerably lower compared to blood.

**Methods:** Plasma and cervicovaginal lavage (CVL) samples were obtained from 18 women enrolled in the CAPRISA Acute Infection study in Durban, South Africa within 2 to 15 weeks of infection and from 3-6 time-points later in infection. HIV-1 RNA was isolated and full length envelope genes were amplified from single genomes by nested PCR and sequenced. Phylogenetic analyses of sequences obtained from each individual were performed using Bayesian Evolutionary Analysis by Sampling Trees (BEAST). The concentrations of CD4 T-cells were measured in CVL samples using Luminex Multiplex Flow Cytometric assays.

**Results:** Amplification rates of envelope sequences from acute CVL samples were low (4/18, 22%). Successful amplification was significantly associated with the presence of pro-inflammatory cytokines in the CVL supernatant. From these 4 individuals, a total of 205 plasma and 208 CVL envelope sequences were generated during acute and chronic infection and used to compare evolution in the genital tract and blood. Phylogenetic analysis revealed that all sequences from each individual clustered together and with subtype C reference strains. At all time points CVL and plasma sequences were intermingled of monophyletic and did not persist.

**Conclusions:** In conclusion, although there was some local replication, there was no evidence for the existence of independent viral populations in the genital tract of HIV infected women during early and chronic infection. This suggests that viral populations traffic between the systemic and genital compartments.

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**TUPEC220**

**MAPPING OF PAP SMEAR QUALITY AND RESULTS USING ROUTINELY COLLECTED SOUTH AFRICAN HEALTH FACILITY DATA**

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**Background:** In South Africa, cervical cancer remains among the most common cancers and a leading cause of cancer death. Co-infection with HIV increases the risk of developing cervical dysplasia and cancer. We analysed National Health Laboratory Service (NHLS) cervical cytology data using choropleth maps to create pictorial representations of Pap smear quality and to investigate geographic variations in Pap smears abnormalities.

**Methods:** Facility-level data were extracted from the NHLS Central Data Warehouse for April 2013–March 2014. We present results and maps detailing:

1. Pap smear coverage in HIV infected women defined as the proportion of Pap smears submitted assumed to be from HIV infected women out of population estimate of HIV infected women.
2. Pap smear quality defined as “adequate” smears in which endo- and ecto-cervical cells are present.
3. High-grade cytologic abnormalities defined as Pap smears suspicious for invasive carcinoma, high-grade squamous intraepithelial lesions (HSIL) or atypical squamous cells: cannot exclude HSIL (ASC-H).

**Results:** From April 2013-March 2014, 45,622 facilities submitted 791,067 cytology slides. The interquartile range for Pap smear coverage among HIV infected women was 26-41% which was substantially lower than among HIV uninfected women (32-50%) and overall coverage (44-67%). Overall cytology results are not disaggregated by HIV status. 6/52 districts had adequacy rates above the national standard of 70% and 2/52 districts had adequacy rates below 35%, figure 1a. We observed marked variation in Pap smear abnormalities across the country, with the proportion of high-grade abnormalities >= 0.3% in 17/52 districts figure 1b.

<Choropleth map showing geographic variations in Pap smear quality and Pap smear abnormalities across South Africa>

**Conclusions:** Using choropleth maps, we are able to display cervical cancer quality and results. This has important implications for policy, programming and resource allocation, as women with abnormal Pap smears need additional treatment for effective cancer prevention. Urgent interventions are needed to improve coverage and quality or cervical screening, and to address observed regional disparities in results.
TUPEC221
Spatial distribution of HIV prevalence and HIV care cascade engagement in an urban informal settlement in South Africa

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Background: Spatial analysis of the geography of HIV prevalence and engagement in care has the potential to inform policy and health care delivery. We assessed HIV prevalent and self-reported care status to examine gaps in the treatment cascade and hotspots of HIV infectiousness in an urban South African township.

Methods: We conducted a cross-sectional randomly selected household community survey of 1,231 individuals in Diepsloot, South Africa. HIV prevalence, engagement in HIV care (diagnosed, in care, on treatment), and likelihood of infectiousness (defined as not on treatment or not adhering) were mapped by neighborhood and clusters were identified using Kulldorff’s SaTScan™ method (Poisson model, p < 0.05). A log binomial model was used to identify factors associated with HIV infectiousness.

Results: Among 1,231 individuals enrolled, 195 (16%) were HIV positive. Two-thirds (64%, n=124) self-reported a known positive HIV status, 71 (36%) were newly diagnosed with HIV. Of those known to be HIV positive, two-thirds (68%, n=84) were in care. Based on the 2013 South African ART eligibility guidelines (CD4 count ≤350 cells/μl), 68 of 91 (74%) patients eligible for ART were on treatment. Sixty-seven percent (n=130/195) of HIV positive individuals were classified as infectious. HIV prevalence varied geographically (range 6-24%) and clusters were identified for each step of the care cascade with little geographic overlap between diagnosis and care (Figure). HIV infectiousness was associated with being employed (Risk Ratio=1.34, 95% CI: 0.97-1.86), younger age (18-29 years vs. 30-39 years, RR=1.40, 95%CI: 1.13-1.73), and originating from a country other than South Africa (RR=1.14, 95%CI: 0.93-1.40).

Conclusions: In a poor urban informal settlement in South Africa, we observed geographical variation in engagement in the HIV care cascade and level of HIV infectiousness, suggesting different drivers for each level of the care cascade. Our findings support the potential for targeted interventions at the neighborhood level.

TUPEC222

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Background: HIV/AIDS is a major public health problem which poses a significant threat to livelihoods and social security in resource-poor countries due to rapid spread of infection amongst individuals at the prime of their productive age. Sub-Saharan Africa is most affected with an estimated 24.7 million people living with HIV in 2014, and accounts for almost 70% of new infections globally. The Pan African Clinical Trials Registry (www.pactr.org) is the only World Health Organization endorsed primary registry in Africa and aims to improve research transparency and reduce publication bias. This study describes the current status of HIV clinical trials registered on PACTR.

Methods: We conducted a cross-sectional analysis of HIV/AIDS trials registered on PACTR. Data extraction included trial location, intervention studied, principle inves-
STUDIES OF RISK BEHAVIOURS AND THEIR IMPLICATIONS FOR PREVENTION

TUPEC224
TRANSACTIONAL SEX, HOUSING INSTABILITY, AND SAFER SEX MOTIVATION DETERMINE SEXUAL RISK AMONG RECENT AFRICAN GAY AND BISEXUAL IMMIGRANTS TO NEW YORK CITY

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Background: To understand HIV risk in gay and bisexual men who migrated from countries where homosexuality is illegal and suppressed, to places with increased tolerance and opportunities for sexual expression.

Methods: We conducted structured face-to-face interviews with 70 sexually active gay and bisexual men who had migrated within the past 5 years from Western and Eastern African countries to New York City (NYC). Sexual risk was assessed as an index based on number of times and number of men with whom one had condomless receptive and/or insertive anal sex (range 0 to 4). Housing instability was assessed with a 5-item scale (α=.72). Eight men who reported being HIV positive were excluded from the analyses.

Results: The 62 men who were HIV negative or did not know their status (mean age 34 years) came from 35 different African countries. Sexual repression was the most common reason for leaving one’s home country. Over a third of the men reported always having used condoms in the past year; among the other men, sexual risk varied. Current engagement in transactional sex and motivation to avoid HIV infection were identified as independent predictors of sexual risk in a forward stepwise regression analysis that also included HIV knowledge, attitudes towards condoms, alcohol and drug use, social support, internalized homophobia, mental distress, PTSD, stability of immigration status, migratory grief, and housing instability (R²=.35).

Examination of bivariate relationships suggests that motivation to avoid HIV infections before coming to NYC, also reported more housing instability. About their homosexuality in their home country, and who had forced sex experiences. Men for whom migration had been difficult, who had been less open progression analysis that also included HIV knowledge, attitudes towards condoms, alcohol and drug use, social support, internalized homophobia, mental distress, PTSD, stability of immigration status, migratory grief, and housing instability (R²=.35). Housing instability was furthermore associated with an unstable migration status (being undocumented or seeking asylum), less social support, having to borrow money from friends, and more alcohol and drug use. For whom migration had been difficult, who had been less open about their homosexuality in their home country, and who had forced sex experiences before coming to NYC, also reported more housing instability.

Conclusions: To prevent HIV transmission among African gay and bisexual immigrants it is critical to address the disempowerment caused by the migration experience, particularly as it concerns housing and social position more generally.

TUPEC225
TRANSACTIONAL SEX AND ITS ASSOCIATED FACTORS AMONG WOMEN ATTENDING ANTIRETROVIRAL CLINICS IN OGUN STATE, NIGERIA

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Background: Despite global advancement in HIV research and control, HIV prevalence and transmission is still of public health concern in low resource climes like Nigeria. Transactional sex has been shown to be associated with HIV risk behaviours and increased transmission. This study therefore assessed the prevalence of transactional sex and its associated factors among women attending antiretroviral clinics in Ogun State, Nigeria.

Methods: A cross-sectional descriptive study was carried out on 204 women attending antiretroviral clinics in two public tertiary health facilities in Ogun State, Nigeria via systematic random sampling. Data was collected using a validated, semi-structured, interviewer-administered questionnaire and was analysed using IBM SPSS 17.0. Relevant descriptive and inferential statistics were calculated with level of significance set at p < 0.05. Respondents’ informed consent was obtained and strict confidentiality was ensured. Participation was fully voluntary.

Results: The mean age of respondents was 38.3±9.0 with the modal age group being 31-40 years. Two-thirds (66%) were in a monogamous marriage and majority (76%) were Christians. About two-thirds (62.4%) had at least secondary education. About one-third (36.3%) lived in a room apartment. Almost half (42.9%) spent over 50% of their monthly income on food. Majority (87.7%) were not on any food assistance program and over four-fifths (85.8%) have commenced antiretroviral therapy. Prevalence of transactional sex was 7.4%. Household size (p=0.031), marital status (p=0.015), reduction of food rations unwillingly (p=0.010), skipping of medications due to lack of food (p=0.003) and starving for a whole day (p=0.044) were significantly associated with transactional sex. Transactional sex had no significant association with age (p=0.473), educational status (p=0.498), family type (p=0.877), occupation (p=0.312), housing type (p=0.249), percentage of income spent on feeding (p=0.923), being on food assistance program (p=0.351) and commencement of antiretroviral drugs (p=0.134).

Conclusions: The prevalence of transactional sex was high. Feeding concerns and skipping of medications were significantly associated with transactional sex. Food assistance programs, socioeconomic empowerment schemes and targeted counselling should be given to people living positively with HIV to halt and reverse HIV transmission.

TUPEC226
STIGMA, RESILIENCY, AND CONDOM NEGOTIATION WITH CASUAL SEXUAL PARTNERS AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN SENEGAL

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Background: Sexual behavior stigma is associated with increased risk for HIV infection and suboptimal HIV treatment outcomes among MSM particularly in low-and middle-income countries, although data on causal pathways of stigma are limited.

Methods: We collected data on 718 MSM aged >18 years across three cities in Senegal via respondent-driven-sampling. Participants were asked to report lifetime experiences of sexual behavior stigma as a result of having sex with men. In addition, participants were screened for depression (PHQ9), resilient coping ability (Brief Resilient Coping Scale), and were asked in general how difficult or easy it was to suggest the use of condoms with casual male sex partners. Structural equation modeling (SEM) was used to estimate indirect effects of stigma on perceived difficulty in suggesting condom use among MSM who had never been told they are living with HIV.

Results: 340 MSM reported any casual partners and were included in the final SEM. An asymptotic distribution free estimation method was used due to lack of joint normality of the endogenous variables. For each pathway modeled in the SEM, we adjusted for age and employment status. Perceived and experienced sexual behavior stigma was significantly associated with reduced resilient coping ability (Figure 1). In contrast, higher resilient coping ability was associated with improved condom negotiation with casual male sex partners. Stigma from family/friends was associated with increased depression although not found to be associated with resilience. Finally, there was no direct relationship between depression and condom negotiation.

Conclusions: In the context of novel HIV intervention approaches such as pre-exposure prophylaxis and universal treatment, consistent condom use with casual sexual partners remains crucial for the prevention of HIV acquisition and transmission. These results suggest that stigma and mental health represent important determinants of risk among MSM, and thus should represent targets of comprehensive intervention strategies.
TUPEC227
FACTORS ASSOCIATED WITH UNPROTECTED ANAL INTERCOURSE IN MEN WHO HAVE SEX WITH MEN (MSM): FINDINGS FROM THE FIRST BIO-BEHAVIORAL SURVEY USING RESPONDENT-DRIVEN SAMPLING AMONG MSM IN BAMAKO, MALI

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Background: HIV prevalence among men who have sex with men (MSM) in Bamako, Mali is 13.7%, 8-9 times that among men overall. A contextual understanding of unprotected anal intercourse (UAI) is needed to inform HIV prevention programs. We analyzed data from a recent survey of MSM to identify factors associated with UAI.

Methods: We conducted a cross-sectional survey of 552 MSM using respondent-driven sampling between October 2014 and February 2015. Eligibility criteria included being ≥18 years old, residence in Bamako or its suburbs in the preceding 6 months, and having had sex with another man in the preceding 6 months. Participants underwent a face-to-face interview before being counseled and tested for HIV. Weighted data analysis was conducted with R version 3.2.3.

Results: Most (54.3%, 95%CI 48.1, 60.6) MSM were 20-24 years old; 47.3% (95%CI 41.1, 53.6) had a secondary education and 91.8% (95%CI 88.5, 95.1) were never married. Nearly all MSM were Malian (94.5%, 95%CI 91.0, 98.0) and Muslim (88.3%, 95%CI 84.0, 92.6). As for relevant knowledge and behaviors: 30.8% (95%CI 25.3, 36.3) had ≥3 male partners in the preceding 6 months; 44.0% (95%CI 37.5, 50.5) listed UAI as the riskiest type of sex; 57.1% (95%CI 50.9, 63.1) identified condom use during anal intercourse as more important than during vaginal intercourse; and 40.7% (95%CI 34.5, 46.8%) of men reported UAI with their most recent partner. Factors independently associated with UAI in the preceding 6 months included: in-ability to access condoms (aOR 4.5, 95%CI 2.3-9.0); number of male partners in preceding 6 months (aOR 3.9, 95%CI 1.9-8.0 for 2 vs. 1; aOR 2.6, 95%CI 1.3-5.1 for ≥3 vs. 1); knowing HIV-positive MSM (aOR 3.1, 95%CI 1.3-7.1); and age of first male partner (aOR 5.5, 95%CI 1.4-20.9 for ≤14 vs. 15-24 years).

Conclusions: HIV prevention programs for MSM in Bamako should target UAI reduction among MSM by increasing condom access, reinforcing importance of reducing number of male sex partners, and encouraging limitation of anal intercourse when condoms are unavailable.

TUPEC228
SEX TOURISM AMONG CHINESE MEN WHO HAVE SEX WITH MEN: IMPLICATIONS FOR HIV PREVENTION

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Background: Sex tourism among men who have sex with men (MSM) provides a potential risk for spread of HIV and other STIs. Our objective was to characterize the demographic characteristics, and sexual risk behaviors among Chinese MSM sex tourists.

Methods: An online, cross-sectional survey for MSM throughout China was conducted in November 2015. Questions covered sociodemographic characteristics and sexual risk behaviors. Sex tourism was defined as traveling outside of one’s hometown and purchasing sex with gifts or money. Univariate and multivariate logistic regressions were performed to identify correlates of sex tourism. Using participant-reported sex tourism destinations, we compared the reported mean MSM HIV prevalence between their journey origins and destinations.

Results: In total, 1192 MSM completed the survey, with 62 (5.2%) identifying as sex tourists, and 20 (32.3%) traveling for the primary purpose of purchasing sex. Of the sex tourists, 53 (85.5%) were educated beyond high school, 19 (30.6%) reported more than three sex partners in the last three months and 23 (37.1%) reported condomless sex in the last month. In multivariate analyses, sex tourists were more likely to have high risk sexual behaviors such as sex while drunk (odds ratio (OR) 4.67, 95%CI 2.64-8.27), receiving payment for sex (OR 3.18, 95%CI 1.68-6.02), more than 6 sex partners in the last three months (OR 2.95, 95%CI 1.14-7.52), group sex (OR 2.81, 95%CI 1.44-5.51), and condomless sex in the last month (OR 1.86 95%CI 1.06-3.25). Sex tourists were more likely to report HIV testing (OR 1.50 95%CI 1.13-3.41) and a positive HIV result (OR 2.21 95%CI 0.82-5.98) in univariate analyses. Sex tourism travel was more often from locations with a lower MSM HIV prevalence (M=4.47, SD=2.01) to locations with a higher MSM HIV prevalence (M=6.86, SD=5.24), t(913)=4.218, P<0.001.

Conclusions: MSM sex tourists were more likely to participate in risky sexual behaviors and travel to locations with a higher HIV prevalence. Phyletogenetic research would be useful to examine how sexual mixing among sex tourists influences onward HIV transmission. Programs that reach and retain high-risk, mobile groups of MSM such as sex tourists should be considered.
TUPEC230

NETWORKS OF RECENTLY-INFECTED PEOPLE WHO INJECT DRUGS (PWID) IN ATHENS, GREECE. JUNE 2013 - JULY 2015: EPIDEMIOLOGICAL INSIGHT FROM A PROJECT TO REDUCE HIV TRANSMISSION

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Background: Following HIV acquisition, high viral loads and risky networks can interact to generate epidemic outbreaks if the newly-infected engage in risk behaviors with networks that include large numbers of uninfected partners. We describe 46 recently-infected PWID’s injection and sexual networks.

Methods: HIV seropositive PWID were recruited and classified as recently-infected using an algorithm incorporating data on HIV status, testing history and Limiting Antigen Avidity OD. We recruited seeds’ (last-6-month) injection and sexual network members, including people who attend injection sites or sex venues they use. Network members were assessed for recent and acute infection. All participants were interviewed about risk behaviors and numbers of partners.

Results: We recruited 45 recently-infected PWID (36 men; 9 women). They generated 66 network members whom we tested and interviewed, of whom 43 were uninfected (35 of these were PWID). On average, each uninfected network member reported sex with 2.4 partners in the last 6 months, for a total of 104 partners. These data seriously underestimate the numbers of HIV negatives in their networks. This is shown by the fact that we could recruit only 66 members of the 45 recently-infected participants’ networks but these 45 recently-infected participants reported injecting with 219 PWID and having sex with 340 partners. If their partners were 65% uninfected (the rate among the recruited network members), and accounting for overlap between injection and sex networks, this suggests that the 45 recently-infected participants had at least 200 uninfected people in their immediate networks—and these 200 people had the potential of infecting many more while their viral loads were high if they became infected. Reports on network members’ risk behaviors indicate that men had condomless sex with 43% of their partners, women with 23% of their sex partners, and that 44% of PWID in the networks passed used syringes on to others.

Conclusions: Recently-infected PWID engage in risk behaviors with large numbers of HIV-negative sex and injection partners, and these also have large numbers of negative partners. This poses risk of explosive HIV outbreaks. Interventions to locate recent and reduce their transmission potential are sorely needed.

TUPEC232

COMMUNITY MEMBERSHIP, FINANCIAL SECURITY, SOCIAL PROTECTION AND HIV RISK BEHAVIORS AMONG MSM IN INDIA: FINDINGS FROM AVAHAN-III EVALUATION STUDY

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Background: Community membership, financial security and social protection are crucial to confront HIV risk among high risk population in developing countries. This study assesses community membership, financial security and social protection among Men who have Sex with Men (MSM), and explores its association with their HIV risk behaviors in India.

Methods: Data were drawn from the Avahan-III baseline evaluation survey- 2015, conducted among MSM (n=1005) in three states of India. Two stage cluster sampling approach was used to select the required number of MSM for the survey. Adjusted odds ratios (AOR) and their 95% confidence intervals (CI), bivariate analysis and frequency were used to assess the relationships between community membership, financial security and social protection with HIV risk behaviors.

Results: Most of the MSM were a registered member of any community organizations (88%) and having any social entitlements (Ration/BPL card, Aadhar card and Voter ID) (89%), whereas more than 73% had functional savings account either in a nationalized bank or post office, and 21% reported access to any social protection schemes. MSM, those who were member of a CO (21% vs. 3%; AOR: 8.7), had access to any social entitlements (20% vs. 11%; AOR: 2.1) and had a functional savings account (22% vs. 12%; AOR: 1.7) were significantly at higher chances of using condom consistently with both paying as well as paid male partners than others. The odds of consistent condom use with non-paying non-regular and non-paying regular male partners are also higher among MSM those had access to any social protection schemes, having a functional saving account compared to their counter parts.

Conclusions: Findings from the study show that there is significant association between community membership, financial security and social protection with consistent condom use with different type of sex partners among MSM. The maintenance of high levels consistent condom use is central to improve the usefulness and sustainability of HIV prevention programs. However, more community outreach activities, research and advocacy are required to highlight these issues in a wider context.

TUPEC231

THE UNREACHED POPULATION IN HIV PREVENTION: FEMALE SEX PARTNERS OF CURRENTLY MARRIED MEN HAVING SEX WITH MEN IN THANE, MAHARASHTRA, INDIA

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Background: In India, Men having Sex with Men (MSM) is one of the key population for HIV prevention programme; but the programme has been facing challenges due to homosexuality being penalized and not socially accepted. Due to this status, The unreached population in HIV prevention: female sex partners of currently married men having sex with men in Thane, Maharashtra, India

TUPEC233

ASSESSING SEXUAL RISK BEHAVIOR IN THE YOUNGER AND OLDER MALE DRIVERS IN IBADAN, NIGERIA

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Background: Long distance drivers like most mobile workers are at greater risk for acquiring and spreading sexually transmitted infection including HIV/AIDS. This community-based comparative study examined sexual risk behavior among long distance commercial drivers of different ages to identify their prevailing risky behavior.

Methods: Using multistage sampling technique, commercial drivers from six randomly selected motor parks in Ibadan, Nigeria were interviewed using a standardized questionnaire.

Results: There were 112 (37.5%) men ≤40years and 186 (62.2%) >40 years. The older men had spent more years driving (mean 24.1 ± 12.8 yrs, p< 0.0001) and the religious profile were similar. More younger men 57(50.9%) than older men 22(19.6%) years. Among the currently married, the self-identity is distributed with 21.6% kothi, 27.7% panthi, 23% double-decker and 27.7% bisexual. Whereas among never married MSM, it is predominantly kothi identity (58.6%), followed by 19.2% double-decker, 13.6% panthi and 8.6% bi-sexual. Among 45% of the currently married MSM presently living with a female sex partner, 52% (35/67) had reported of not using condom during the last sexual encounter. Highly significant proportion of currently married MSM had reported of ever had vaginal intercourse (P< 0.001) against never married MSM. The never married MSM are increasingly sharing about their male sexual partners, to their female sex partners, rather than the currently married MSM (P< 0.1).

Conclusions: The findings shows, the currently married MSM are hiding their homosexual behaviour with their female counterparts and 50% have practiced unsafe sex in last sexual encounter, thereby increasing the chances of HIV transmission. Hence HIV programme among MSM particularly in India, needs to find a strategy on reaching out to the female sex partners of MSM.
M. Sibanyoni1, N. Mutanha1, T. Osmand2, A. Marr2, F. Venter1, H. Rees1, T. Lane2

Background: The South African National Strategic Plan recognizes female sex workers (FSW) as a key population with high HIV-risk. The South African Health Monitor Study (SAHMS) was conducted from 2013-2014 to characterize the HIV epidemic among FSW. Across many countries, including South Africa, FSW report high rates of condom use with clients. Of increasing concern are elevated risk behaviours with non-paying partners. We present findings of FSW condom use behaviours with non-paying partners.

Methods: We recruited 2,180 FSW aged 16 and older using respondent-driven sampling (RDS). Eligible participants took a behavioural survey, were offered rapid HIV counselling and testing, and provided blood samples for laboratory testing. Condom use with non-paying partners in the past six months was assessed through a modified version of the validated Condom Use Measure for FSW (CUM-F). We calculated relative risks (RR) and 95% confidence intervals (CI) of two outcomes: all-cause mortality at 96 weeks and retention in care on initial regimen at 48 weeks - in ART-naive HIV-infected adults ≥16 years old using propensity-score-matched IeDEA participants from three regions and compared results to outcomes obtained from a Cochrane systematic review of RCTs. We evaluated two regimens: TDF+XTV+EFV and 2 other NRTI combinations + EFV. For the observational analysis, we conducted propensity scores for receiving TDF+XTV+EFV based on sex, age, country and baseline CD4 count. Each individual receiving TDF+XTV+EFV was matched to one individual receiving 2NRTIs+EFV with a similar propensity score (within 0.001). We compared the propensity score-matched RR to the RR obtained from the systematic review of seven RCTs by computing RRPC/RRRCT.

Results: We evaluated 15,470 IeDEA participants. Risk of retention on initial regimen at 48 weeks was higher in the TDF+XTV+EFV group (RR=1.19, 95% CI 1.17, 1.21). Risk of 96-week all-cause mortality was similar in patients initiating the two regimens (RR=1.04, 95% CI 0.92, 1.18). In the systematic review, the risk of 48-week retention on initial regimen was higher in patients on TDF+XTV+EFV, but the risk of 96-week mortality was similar in the two arms. These findings were not different from those from our propensity-score-matched analysis.

Conclusions: Inconsistent condom use with non-paying partners is high amongst South Africa FSW with their non-paying partners, warranting the implementation of other prevention methods like PrEP and universal treatment which could be of huge benefit to FSW with non-paying partners. Behavioural interventions need to assist FSW navigate relationship dynamics with non-paying partners to further minimise risk.

ETHICAL AND HUMAN RIGHTS ISSUES IN PREVENTION RESEARCH

M. Sibanyoni1, N. Mutanha1, T. Osmand2, A. Marr2, F. Venter1, H. Rees1, T. Lane2

Background: In HIV prevention trials, there is ethical concern that some participants have a "prevention misconception," an overestimate of the probability or level of personal protection afforded by participating in the trial. The purpose of this study was to collect preliminary quantitative data using a brief measure of prevention misconception (PREMIS) in an HIV prevention trial.

Methods: PREMIS was administered at the week 4 and 40 visits to participants in HPTN 069/ACTG 5305 (NCT01505114), a multicenter trial in the United States that included 4 arms comparing investigational maraviroc-containing regimens (vs. tenofovir/emtricitabine) for preexposure prophylaxis in men and women who have sex

TUPEC234

FACTORS ASSOCIATED WITH INCONSISTENT CONDOM USE BY FEMALE SEX WORKERS WITH THEIR NON-PAYING PARTNERS IN JOHANNESBURG, CAPE TOWN AND DURBAN

M. Sibanyoni1, N. Mutanha1, T. Osmand2, A. Marr2, F. Venter1, H. Rees1, T. Lane2

Background: The South African National Strategic Plan recognizes female sex workers (FSW) as a key population with high HIV-risk. The South African Health Monitor Study (SAHMS) was conducted from 2013-2014 to characterize the HIV epidemic among FSW. Across many countries, including South Africa, FSW report high rates of condom use with clients. Of increasing concern are elevated risk behaviours with non-paying partners. We present findings of FSW condom use behaviours with non-paying partners.

Methods: We recruited 2,180 FSW aged 16 and older using respondent-driven sampling (RDS). Eligible participants took a behavioural survey, were offered rapid HIV counselling and testing, and provided blood samples for laboratory testing. Condom use with non-paying partners in the past six months was assessed through a modified version of the validated Condom Use Measure for FSW (CUM-F). We calculated relative risks (RR) and 95% confidence intervals (CI) of two outcomes: all-cause mortality at 96 weeks and retention in care on initial regimen at 48 weeks - in ART-naive HIV-infected adults ≥16 years old using propensity-score-matched IeDEA participants from three regions and compared results to outcomes obtained from a Cochrane systematic review of RCTs. We evaluated two regimens: TDF+XTV+EFV and 2 other NRTI combinations + EFV. For the observational analysis, we conducted propensity scores for receiving TDF+XTV+EFV based on sex, age, country and baseline CD4 count. Each individual receiving TDF+XTV+EFV was matched to one individual receiving 2NRTIs+EFV with a similar propensity score (within 0.001). We compared the propensity score-matched RR to the RR obtained from the systematic review of seven RCTs by computing RRPC/RRRCT.

Results: We evaluated 15,470 IeDEA participants. Risk of retention on initial regimen at 48 weeks was higher in the TDF+XTV+EFV group (RR=1.19, 95% CI 1.17, 1.21). Risk of 96-week all-cause mortality was similar in patients initiating the two regimens (RR=1.04, 95% CI 0.92, 1.18). In the systematic review, the risk of 48-week retention on initial regimen was higher in patients on TDF+XTV+EFV, but the risk of 96-week mortality was similar in the two arms. These findings were not different from those from our propensity-score-matched analysis.

Conclusions: Inconsistent condom use with non-paying partners is high amongst South Africa FSW with their non-paying partners, warranting the implementation of other prevention methods like PrEP and universal treatment which could be of huge benefit to FSW with non-paying partners. Behavioural interventions need to assist FSW navigate relationship dynamics with non-paying partners to further minimise risk.

TUPEC235

COMPARISON OF 48- AND 96-WEEK OUTCOMES IN ADULTS INITIATING TDF+XTV+EFV AND THOSE INITIATING TWO OTHER NRTIs+EFV USING PROPENSITY-SCORE MATCHED OBSERVATIONAL COHORT DATA AND DATA FROM RANDOMIZED CONTROLLED TRIALS

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Background: Observational studies can inform clinical guidelines when RCT data are lacking. Propensity score matching has been hypothesised to better control for confounding in observational studies but has not been evaluated empirically for ART outcomes. We tested the comparability of a propensity-score matched analysis and a Cochrane systematic review of RCTs.

Methods: We calculated relative risks (RR) and 95% confidence intervals (CI) of two outcomes - all-cause mortality at 96 weeks and retention in care on initial regimen at 48 weeks - in ART-naive HIV-infected adults ≥16 years old using propensity-score-matched IeDEA participants from three regions and compared results to outcomes obtained from a Cochrane systematic review of RCTs. We evaluated two regimens: TDF+XTV+EFV and 2 other NRTI combinations + EFV. For the observational analysis, we conducted propensity scores for receiving TDF+XTV+EFV based on sex, age, country and baseline CD4 count. Each individual receiving TDF+XTV+EFV was matched to one individual receiving 2NRTIs+EFV with a similar propensity score (within 0.001). We compared the propensity score-matched RR to the RR obtained from the systematic review of seven RCTs by computing RRPC/RRRCT.

Results: We evaluated 15,470 IeDEA participants. Risk of retention on initial regimen at 48 weeks was higher in the TDF+XTV+EFV group (RR=1.19, 95% CI 1.17, 1.21). Risk of 96-week all-cause mortality was similar in patients initiating the two regimens (RR=1.04, 95% CI 0.92, 1.18). In the systematic review, the risk of 48-week retention on initial regimen was higher in patients on TDF+XTV+EFV, but the risk of 96-week mortality was similar in the two arms. These findings were not different from those from our propensity-score-matched analysis.

Conclusions: Inconsistent condom use with non-paying partners is high amongst South Africa FSW with their non-paying partners, warranting the implementation of other prevention methods like PrEP and universal treatment which could be of huge benefit to FSW with non-paying partners. Behavioural interventions need to assist FSW navigate relationship dynamics with non-paying partners to further minimise risk.
with men who were at risk of HIV infection. Descriptive statistics were computed for all responses. Paired t tests were used to assess item responses between weeks 4 and 40.

Results: Responses to PREMIS items did not differ significantly between weeks 4 and 40 (p=0.249), so only the latter are summarized. When asked about their confidence that the study medications would prevent them from acquiring HIV, 20% did not know or were unsure; the remaining responders expressed high confidence (median: 80%; IQR: 60%-90%). When asked which study group they thought they were in, 66.2% said they did not know. Most (62.7%) believed they were assigned randomly to their group, whereas 9.8% believed a doctor chose the best group for them. When asked how many participants out of 100 would have their chance of acquiring HIV reduced, respondents gave similar responses for all 4 study groups (all medians = 80; 30.4%-37.6% answered “don’t know/unsure”). Responses among respondents who thought they knew which group they were in were in similar regard to the chance of benefit for the group in which they believed they were in (median, 80 out of 100 participants; 21.2% “don’t know/unsure”).

Conclusions: These data suggest that most trial participants expressed high confidence in a prevention effect due to their belief that all of the study groups had a high likelihood of benefit. Future work should assess the relationship of responses to PREMIS, reported risk behaviors, and HIV seroconversion to place these data into context.

ESTIMATION OF THE SIZE OF HIV-INFECTED AND KEY POPULATIONS

TUPEC237

USING IBBS DATA AND CONSENSUS POPULATION SIZE ESTIMATES OF FEMALE SEX WORKERS IN THREE SOUTH AFRICAN CITIES TO ESTIMATE TREATMENT AND BIOMEDICAL PREVENTION NEEDS

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Background: Results from a 2013-14 integrated biological and behavioral surveillance (IBBS) survey from South Africa show HIV prevalence is three to six times higher among female sex workers (FSW) than the general population. However, appropriate allocation of resources and benchmark-setting necessary to curtail the HIV epidemic among FSW has been hindered by the lack of methodologically rigorous estimates of FSW population size. For this reason, the 2013-14 IBBS included Population Size Estimation (PSE) methods to address this strategic information gap for FSW in South Africa’s largest metropolitan areas of Johannesburg, Cape Town, and eThekwini.

Methods: IBBS surveys recruited FSW using responding driven sampling (RDS); HIV prevalence results are presented as RDS-adjusted estimates. Multiple PSE methods were embedded in the survey, including 3 unique multiplier procedures, resulting in 4-5 point estimates for each city. We followed a modified Delphi/consensus method to triangulate IBBS-based PSE results and previously collected population size data; to derive PSEs with upper and lower plausibility bounds for each metropolitan area.

Results: A total of 764, 650 and 766 FSW were recruited in Johannesburg, Cape Town and eThekwini respectively. HIV prevalence estimates were high, ranging from 40%-72%. IBBS-based point estimates showed considerable variability; however, triangulated point estimates were consistent with prior PSEs, strengthening stakeholder confidence in the figures. Final consensus PSEs were 7,697 (plausible range 5,000-10,895) in Johannesburg; 6,500 (4,579-9,000) in Cape Town; and 9,323 (4,000-10,000) in eThekwini (Table 1).

Conclusions: Current HIV prevalence estimates and PSEs demonstrate as many as 20,000 FSW in South Africa’s three largest cities require HIV treatment; and as many as 17,000 would benefit from Pre-Exposure Prophylaxis. The Modified Delphi/consensus process for PSE facilitated adoption of estimates by stakeholders. We recommend this PSE method with key populations to achieve optimal stakeholder buy-in for planning and assessing programmatic impact.

TUPEC238

METHODOLOGICAL CHALLENGES IN ESTIMATING THE SIZE OF KEY POPULATIONS USING INNOVATIVE METHOD: NETWORK-BASED CAPTURE-RECAPTURE

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Background: Network-based capture-recapture (NCRC) method proposed by Dominovski was introduced among methamphetamine users in the USA in 2012. This method was applied first time among Men who have Sex with Men (MSM) in Georgia and later among People Who Inject Drugs (PWIDs). The abstract presents key methodological challenges emerged during fieldwork while using this innovative method.

Methods: Different population size estimation (PSE) methods - 7 for MSM and 3 for PWIDs - were used in these studies, including the NCRC. The innovation of the NCRC is that the respondent provides both capture and recapture data coded for subject anonymity in a single-session, which for our studies were 210 adult MSM and 2,037 PWIDs recruited in Georgia in 2014 and 2015, respectively. Key populations were recruited through Respondent Driven Sampling using peer-referrals. For the capture phase, the study participants reported their personal characteristics (approximate height, weight, hair color and ethnicity) and so called “telefonen codes” derived from the last four digits of their own mobile number. As for the recapture, the respondents provided the similar characteristics appealing to their randomly selected five contacts from the mobile phone directories. PSE study among PWIDs was linked to bio-behavioral surveillance survey. Statistical analysis was performed using Lincoln-Peterson method.

Results: The NCRC method provided MSM population size estimate that was in line with the estimates derived from other more established PSE methods. While for PWID this method yielded in underestimation compared to the median estimates of other PSE methods. This could be explained by difficulties to get the accurate responses on posed questions. Despite assurance of the confidentiality PWID were resistant to disclose personal characteristics of their peers, as well as giving information on the “telefonen codes”. The inaccuracy of NCRC estimates was partially shown in total number of false matches, which was higher for PWIDs compared to the MSM PSE study. In addition to this refusal rate was 3.2% among PWIDs, while zero refusals were recorded among MSM.

Conclusions: Drug use is criminalized in Georgia. This contextual factor affected the reliability of the NCRC method among PWID. At the same time this method provided valid estimates among MSM.
SURVEILLANCE OF HEPATITIS C (HCV) AND HIV CO-INFECTION

TUPEC239
CHARACTERISTICS ASSOCIATED WITH HCV MONITORING AMONG HIV/HCV CO-INFECTED ACTIVE INJECTION DRUG USERS

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Background: Co-infection with hepatitis C virus (HCV) and HIV is common, given their shared link to injection drug use, and is associated with high rates of morbidity and mortality. Inappropriate follow-up of HCV infection among people living with HIV/AIDS can occur. However, factors that lead to HCV monitoring among the HCV-positive illicit drug users population are not known.

Methods: We accessed data from the AIDS Care Cohort to evaluate Exposure to Survival Services (ACCESS), an observational prospective cohort of HIV-positive illicit drug users, to determine what characteristics are associated with HCV disease monitoring. The outcome of interest was self-report of receiving HCV-related bloodwork, biopsy or ultrasound in the previous six months. We used multivariable generalized estimating equations to identify longitudinal factors associated with receiving HCV-related follow-up during the study period.

Results: Between December 2005 and June 2014, 432 HIV- and HCV-positive active injection drug users were recruited and contributed to 2056 interviews. Among these, 1250 (61%) contained a report of recent HCV-related follow-up from 374 (87%) of participants. Multivariable analysis showed that receipt of HCV antiretroviral therapy for at least a day in the last six months (adjusted odds ratio [AOR] = 2.40, 95% Confidence Interval [95% CI]: 1.76-3.22), reporting HCV symptoms (AOR = 1.47, 95% CI: 1.20-1.81), methadone maintenance therapy (AOR = 1.41, 95% CI: 1.14-1.74) and older age (AOR 1.02 per additional year, 95% CI: 1.00-1.03) were associated with a greater chance of HCV monitoring.

Conclusions: We observed that a majority of HCV-positive illicit drug users co-infected with HCV received regular monitoring for HCV-related morbidity during the study period. Factors associated with monitoring included engagement in treatment for addiction and for HIV/AIDS. Knowing which factors lead to HCV monitoring, and subsequently protect individuals from severe liver complications, could guide public health interventions. In this new era of effective and well-tolerated treatment for addiction and for HIV/AIDS, finding and following the individuals that would benefit from such treatment is essential.

TUPEC240
PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS (HIV, HSV-2, SYPHILIS AND HBV) IN PREGNANT WOMEN IN ETHIOPIA: TRENDS OVER THE PAST 10 YEARS (2005-2014)

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Background: STIs are associated with adverse pregnancy outcomes. Although prevalence data of STIs is highly pertinent for targeted intervention; there is paucity of data in Ethiopia. We determine the trends of sero-prevalence of HIV, HSV-2, syphilis and HBV in pregnant women in Ethiopia: trends over the past 10 years (2005-2014)

Methods of all women irrespective of HIV status, showed a decline in the STIs by 50% in ten years (2005 to 2014): HIV: 10.5% to 5.5%; Syphilis: 2.5% to 1.1%; HSV-2: 47.5% to 28.5% and HBV: 12.6 to 6.7%.

Although, there was a continuous decrease in HIV, syphilis and HBV in both HIV positive and negative women, the prevalence of these STIs remained higher in HIV positive women. In contrast, the prevalence of HSV-2 was increased overtime in HIV positive women while it remained at consistently lower level in HIV negative women. There was a wide disparity in prevalence of these STIs across the cities.

Data of all women showed, HBV prevalence in HIV positive younger women (15-25 years) to be higher than in older groups (26-45 years) (13.4% vs. 10.3%; p=0.10); but no difference in HIV prevalence in the HIV negative women between these age categories (6.8% vs. 6.1%; p=0.57). HSV-2 prevalence was higher in the older than

in the younger age groups in both the HIV positive (65.8% vs 58.8%; p=0.08) and HIV negative women (33.3% vs. 18.3%; p=0.001).

Conclusions: We observed a continuous decline in HIV, HBV, HSV-2 and Syphilis in pregnant women, which showed the strength of infection prevention strategies in Ethiopia. However, the high prevalence of STIs by 2014 and the variation in prevalence among the cities indicated the need to strengthen targeted interventions. Further investigation is warranted to investigate the factors associated with the epidemiology, interaction, and clinical implication of those combined infections (HIV, HBV, HSV-2 and Syphilis) in pregnant women.

SURVEILLANCE OF TB AND HIV CO-INFECTION

TUPEC241
LINKAGE TO HIV CARE AND ART INITIATION AMONG INDIVIDUALS DIAGNOSED SIMULTANEOUSLY WITH TB AND HIV IN THE UK, 2010-2014

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Background: HIV-associated TB contributes substantially to the burden of TB-associated morbidity and mortality. Survival is improved with early antiretroviral therapy (ART), following initiation of TB therapy. UK guidelines recommend ART initiation as soon as practicable for those with a CD4+ 100 cells/mm²; for individuals with a CD4<100, risk of drug toxicity should be considered and may result in delayed ART initiation. We investigate the time lag between HIV diagnosis, HIV care and ART initiation among individuals diagnosed simultaneously with TB and HIV.

Methods: Cohort data on adults (15+ years) diagnosed with HIV in the UK between 2010 and 2014 were linked to the national Enhanced TB surveillance system. Individuals were considered simultaneously diagnosed (TB-HIV) if they had a TB and HIV diagnosis within three months. Time lags were calculated using TB diagnosis date, first CD4 date and ART initiation date. Viral load (VL) suppression was defined as < 200 copies/ml.

Results: Between 2010 and 2014, 807 HIV-diagnosed adults were diagnosed with TB, 523 (65%) were simultaneous diagnoses. Median time from TB diagnosis to HIV care among TB-HIV individuals was 5 days (IQR 1-18.5) with 85% linked to care within one month, similar to 6 days [IQR 0-20] and 81% among HIV-diagnosed individuals without TB. Median time lag to ART initiation was 27 days [15-53] and 41 days [20-81] for TB-HIV individuals with a CD4+ 100 and 349, respectively, similar to that of HIV-diagnosed individuals without TB in the same CD4 strata. Among those with a CD4<350, TB-HIV adults started ART sooner than HIV-diagnosed adults without TB (median 77 days [41-281] vs 388 days [70-967]). Following ART initiation, 95% of TB-HIV adults achieved VL suppression within 3-15 months regardless of CD4 cell count, similar to HIV-diagnosed adults without TB.

Conclusions: Linkage to HIV care and ART initiation are prompt among TB-HIV adults. At the population level, ART initiation was not significantly delayed among TB-HIV individuals, indicating increasing recognition of the importance of early ART initiation in TB-HIV adults with a CD4<350, potentially reducing the risk of drug toxicity. Among TB-HIV individuals with a CD4<350, delaying ART until after the intensive phase of TB treatment is the norm.
Background: The use of viral load (VL) metrics as a tool for HIV surveillance has been debated, in particular how these quantities should be measured and interpreted. In this study, various in-care viral load (ICVL) and other VL metrics were compared in their time trends and their association with numbers of newly diagnosed HIV cases over time. We aimed to obtain more insight into the possible additional value of VL metrics for HIV surveillance.

Methods: Data from HIV patients registered in the national observational Dutch ATHENA cohort from 2002-2014 were used, including viral load measurements, CD4 cell counts, and epidemiological information. Various VL metrics were compared: log VL at diagnosis, five different ICVL metrics (e.g. median of the median, and mean of the mean, first, last, highest, of the patients’ VL in a year), the proportion of patients with transmission risk (>400 copies/ml), and with a suppressed VL (<200 copies/ml) per year. Differences in VL metrics among subgroups were tested using Kruskal-Wallis tests and Wilcoxon rank sum tests. Negative binomial regression analyses were performed to study the association between the VL metrics and numbers of newly diagnosed HIV cases one, two, and three years later.

Results: Differences in all VL metrics were found for modes of transmission, region of origin, region of current residence, SES, and population density. Log VL at diagnosis increased over time and was negatively associated with numbers of newly diagnosed HIV cases two and three years later (p<0.001). The different ICVL metrics showed similar decreasing trends, except for the median of the median log VL which remained constant. Of the five ICVL metrics, the mean of the mean viral load per year was chosen for further analyses. The strongest association was found between this ICVL metric and numbers of newly diagnosed HIV cases in subsequent years, as compared to the other VL metrics.

Conclusion: VL metrics may have additional value for HIV surveillance to identify subgroups or locations with reduced treatment uptake or to provide insight in time between infection and diagnosis.

**TUPEC244**

**IMPACT OF COMMUNITY-LED STRUCTURAL INTERVENTIONS FOR VULNERABILITY REDUCTION LEADING TO PRIMARY RISK REDUCTION OF HIV IN 5 STATES OF INDIA**

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Background: Swasti along with its sister organizations of Vrutti and Catalyst Management Services are engaged by BMGF to lead the Avahan India AIDS Initiative (April 2014 to March 2017) across five high HIV prevalence states (Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu and Telangana) of India. Two key factors that shaped the design of phase III were, vulnerability reduction needs to complement primary risk reduction to ensure effective sustainable results in HIV prevention and community institutions need to be strengthened further to for sustainability. 4 program strategies- safety, security and justice, social protection, financial security and community institution and strengthening- are implemented. The 4 pillars are mutually reinforcing, the first 3 focusing on the individual and ecosystem and last focusing on organization (agency).

Methods: Member Engagement and Communication is a systematic and continuous process undertaken from April to September 2015 by Field Workers of 84 Community Organizations in 930 villages of 1412 Community Health and Care Centers (April 2014 to March 2017) across five high HIV prevalence states (Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu and Telangana) of India. Two key factors that shaped the design of phase III were, vulnerability reduction needs to complement primary risk reduction to ensure effective sustainable results in HIV prevention and community institutions need to be strengthened further to for sustainability. 4 program strategies- safety, security and justice, social protection, financial security and community institution and strengthening- are implemented. The 4 pillars are mutually reinforcing, the first 3 focusing on the individual and ecosystem and last focusing on organization (agency).

Results: The shift from MDGs to SDGs may risk reduction of HIV-specific risks, alongside rising adolescent HIV-infection and AIDS-deaths. But particular SDGs may also have large-scale potential to improve HIV outcomes. This study examines whether SDG goal 1.3: the implementation of national social protection systems, can impact key adolescent HIV risks in South Africa.

Methods: Longitudinal survey of adolescents (10-18 years) between 2009 and 2012 during a national adolescent social protection scale-up. Census areas were randomly selected in two urban and two rural health districts in two South African provinces, including all homes with a resident adolescent. Gender-disaggregated multivariate analyses assessed household receipt of ‘cash’ (i.e. cash transfers, free school) and ‘care’ (i.e. good parenting, teacher support) social protection, and HIV-related indicators that fell within five SDG goals, using multivariate logistic regression and marginal effects models.

Results: Social protection was associated with significant adolescent risk reductions in 11 of 17 gender-disaggregated HIV-outcomes that are also SDG indicators: hunger, HIV-risk behavior, tuberculosis, substance abuse, educational access, sexual exploitation, and reproductive health and violence perpetration (SDGs 2, 3, 4, 5 and 16). For tuberculosis and mental health, and for boys’ sexual exploitation, no effects were found and more targeted or creative means will be needed to reach adolescents on these key HIV-related risks.
GUIDE SENSITIZATION, EMPOWERMENT AND VIOLENCE REDUCTION

TUPE245
DEVELOPING AND INTEGRATING GENDER-BASED VIOLENCE SCREENING PROGRAM WITHIN COMMUNITY ORGANIZATIONS

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Background: In Guyana, women and key populations (men who have sex with men, transgender individuals, sex workers) experience high levels of HIV and gender-based violence (GBV). Guyana’s 2014 Bio-behavioural Surveillance Survey found that one quarter to one third of sex workers experienced rape (25.2% male, 25.1% female and 31.1% transgendered). Stigma and criminalization of these behaviours further exacerbate the experience of violence, and hinder access to HIV prevention and support services. Client-friendly, integrated HIV and GBV services would alleviate service barriers and expand referrals to support networks.

Methods: In 2014, Advancing Partners & Communities, supported by International Centre for Research on Women, commenced a nine-week pilot intervention at five sites to examine the feasibility of integrating GBV services within HIV services provided by community organisations. Pilot methodology involved adapting an existing GBV screening tool and referral programme, including situational analysis, a resource booklet, a directory of services and programme protocol. Key population members and PLHIV were offered screening while they accessed HIV counselling, testing or care and support services. Community organisation providers received gender-sensitivity and GBV-specific training and onsite mentoring, allowing them to sensitise their local support organisations.

Results: Of the 111 persons screened (76 female, 35 male), 51.5% (56) had experienced some form of violence in the preceding 12 months. 80% (45) of these reported experiencing emotional violence, 52% (29) physical, 39% (22) sexual and 46% (26) psychological, while 25% reported experiencing all forms of violence. Women were four times more likely to experience violence than men. About half (29/56) of the clients who screened positive for GBV were referred to services outside the pilot site, but only 14% (4/29) confirmed accessing these.

Conclusions: The pilot demonstrated the effectiveness of an integrated approach in identifying survivors of violence and gathering valuable information. It allowed community providers and referral agencies to have greater awareness of sexual and gender and how HIV and violence are interlinked. Additionally, the pilot fostered relationships between providers and referral networks, promoting a more gender-sensitive and client-friendly environment. It acted as an impetus to initiate broader community-health system collaboration and improved response to HIV-related vulnerability.

TUPE246
CREATING ENABLING ENVIRONMENT TO REDUCE VULNERABILITIES OF MSM TOWARDS HIV/AIDS THROUGH KEY STAKEHOLDER’S SENSITIZATION

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Background: Homosexuality—a criminal offense in India due to prevailing sodomy laws—in invites further stigma and discrimination due to cultural and social influences. MSM are disproportionately impacted by HIV and remain vulnerable due to hostile environments that prevent access to healthcare and legal aid. Healthcare-legal stakeholders play a key role in creating enabling environments for MSM. Thus stakeholder sensitisation is crucial and needs focus.

Description: The Humsafar Trust is Sub-Recipient for Global Fund Round-9 funded Project DIVA which focuses on to improve policy environment with regards to MSM, transgender and capacity building of the organizations implementing MSM HIV interventions with a focus on stakeholder sensitization conducted via workshops highlighting MSM issues with various training models and methodologies comprising discussion, presentation, case studies, and visual aid thus enabling organizations to engage in policy development, advocacy initiatives, and rapport building with stakeholders.

Lessons learned: Twenty one community-led and managed workshops involving 655 stakeholders (209 State AIDS Control Society Officials, 272 police and law enforcement personnel, 78 judiciary members, 96 Media personnel) were conducted from October 2014-December 2015 on MSM issues in North, North Eastern areas. These workshops highlighted chief community concerns such as violence, harassment, invisibility and sensitized stakeholders with community participation and involvement. Stakeholders reported better understanding of MSM issues after the sensitisation workshops.

Conclusions/Next steps: Community-led stakeholder sensitization is key in creating and fostering rational attitudes toward MSM. Enabling environments further empower MSM to seek healthcare and legal aid thus reducing their vulnerabilities to violence and HIV. Community involvement and wider replication of similar activities is strongly needed to promote human rights, overall wellbeing and social justice toward marginalized communities such as MSM.

TUPE247
ROLE OF BUILDING CAPACITIES FOR SEXUAL CONSENT IN REDUCING HIV VULNERABILITY AMONG MSM AND TRANSGENDER WOMEN IN SOUTH ASIA

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Background: Behaviour change communication (BCC) efforts in HIV interventions targeted at men who have sex with men (MSM) and transgender (TG) women in South Asia have traditionally not emphasized negotiation of sexual consent. A seven-country South Asian regional study supported by UNDP on gender-based violence (GBV) faced by MSM and TG women suggests that addressing individual and community perceptions, skills and capacities around sexual consent has a key role in reducing HIV vulnerability. This abstract looks at data in particular from Afghanistan, India and Pakistan.

Methods: Ten FGDs conducted with MSM and TG women in Afghanistan, India and Pakistan to examine attitudes to eliciting responses of GBV among study participants. The FGDs were supported by key informant interviews and literature review. Data was analyzed using a coding tree emergent from the reading of transcripts, and subsequently Atlas-ti software. Study protocols were reviewed by ethics research committees in each of the study countries. Training on gender and sexuality concepts and research ethics preceded the study.

Results: Analyses reveal that consent provided by MSM and TG women for unprotected sex with multiple male partners (including commercial partners) has several contexts: Financial compulsions around livelihood, maintaining intimate partners, meeting monetary expectations of community leaders; peer pressure to live up to norms around femininities and masculinities; uncertainty around availability of partners in a safe environment; dealing with stakeholders with institutional power; escape from incessant family and intimate partner violence; and the influence of substance use and mental ill health. Opinions on what constitutes consent and withdrawal of consent vary widely. Narratives of abusive first-time sexual encounters with male partners are frequent. These contexts constitute pathways through which GBV results in increased HIV exposure.
Conclusions: Counselling and other BCC strategies in HIV interventions for MSM and TG women must go beyond exclusive emphasis on condom usage and STI/ HIV testing and treatment to cover contexts that lead to unprotected sex and poor health seeking behaviour. They must facilitate access to economic inclusion, legal aid and mental health services and develop capacities in programme beneficiaries to provide well-considered consent and withhold or withdraw it as an HIV prevention strategy.

TUPEC248 ENHANCING STRUCTURAL INTERVENTIONS THROUGH BOYFRIEND’S FORUM FOR MITIGATING GENDER-BASED VIOLENCE AMONG FEMALE SEX WORKERS IN HIV INTERVENTIONS

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Background: Gender based violence (GBV) has been recognised as a global public health and human right setback leading to elevated rates of morbidity and mortality. Violence which includes sexual abuse and physical assault against female sex workers (FSWs) has been reported to increase the risk of HIV infection and sexually transmitted infection, resulting in reduced control of FSWs to negotiate HIV risk reduction practices with their partners (boyfriends). Low condom use during sex with boyfriends among FSWs represents a potential bridge for HIV transmission of infection to the general population. This paper points out that physical and sexual violence against FSWs committed by boyfriends can be mitigated through structural interventions using boyfriend’s forum.

Description: Society for Family Health is implementing a five year MARPs project funded by USAID in Nigeria. In Lagos State, the project is implemented in 15 Local Government Areas. In line with the National HIV Strategic Framework, structural interventions using boyfriend’s forum was conducted as small group discussions. The objectives of the boyfriend’s forum were to: involve the partners of the FSWs in HIV interventions; create an enabling environment to support safer sex practices and promote sustainability of behaviour change; address emerging issues, social crisis and mitigate violence that affects the FSW communities. In conducting boyfriends’ forum, each FSW was requested to invite her boyfriend to the small group discussion where issues’ surrounding violence and HIV were discussed. Information gathered were collated, analysed using simple tools and disseminated to the FSW community.

Lessons learned: This forum created the opportunity of tackling the issue of non condom use by FSWs with boyfriends supporting the use of condom as at last sexual act. Involvement of boyfriends in structural interventions has impacted on reductio in violence experienced by FSWs. This discussion offers a cost effective way of involving partners of female sex workers in HIV interventions.

Conclusions/Next steps: HIV interventions targeting FSWs should encourage a forum among FSWs and their boyfriends to address the role of GBV in HIV related risk behaviours and infection thereby contributing to the reduction of HIV prevalence.

TUPEC249 AFRICAN AMERICAN HIV UNIVERSITY, SCIENCE AND TREATMENT COLLEGE: A MODEL TO ADDRESS HIV-RELATED STIGMA AND LOW HEALTH LITERACY IN BLACK COMMUNITIES

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Background: African Americans have the most severe burden of HIV among all racial/ethnic groups in the nation. Research shows that lack of scientific literacy, stigma, conspiracy beliefs and misconceptions of HIV have presented considerable barriers to HIV prevention strategies among Black Americans. Additionally, the Black AIDS Institute’s recent report on the state of HIV science and treatment literacy among the HIV workforce indicates that Black members of the workforce score significantly lower than their white counterparts on HIV knowledge questions. The African American HIV University (AAHU) Science and Treatment College (STC) is an intensive training and fellowship program that responds to these barriers in Black communities.

Description: Aimed at strengthening organizational and individual capacity to address the HIV/AIDS epidemic in Black communities, the African American HIV University (AAHU) Science and Treatment College (STC) is a comprehensive training fellowship and scholarship program. The program is designed to decrease stigma and misconceptions and increase the engagement and mobilization of the Black community in HIV prevention and treatment services. The STC curriculum prepares community-based and AIDS service organizations (CBOs/ASOs) to serve as liaisons between people living with HIV/AIDS (PLWHA). STC focuses on HIV and its relationship to human biology, virology, pharmacokinetics, epidemiology, and treatment strategies.

Methods: An evaluation of the 2013-2014 AAHU STC-cohort reveals a substantial increase of HIV science and treatment literacy among the Fellows (38% increase), their organizations (54% increase) and the communities they serve (42% increase). Fellows reported being more prepared to educate their organizations and communities on HIV science, provide exemplary linkage to care services to their clients and implement HIV programming at the local and regional levels due to skills learned at AAHU STC. The 2014-2015 cohort shows similar increases in knowledge (52% increase). The data from the 2015-2016 is forthcoming.

Conclusions/Next steps: AAHU is a successful model in improving science and treatment literacy of Black HIV/AIDS workforce and organizations serving Black PLWHA. AAHU STC incorporates UNAIDS’ capacity building recommendations by utilizing both long and short term training and leadership strategies. Additionally, AAHU STC responds to the UNAIDS charge to increase HIV education among those serving highly-impacted communities.
TUPED251
LIVING WITH HIV IN SWEDEN: A SURVEY STUDY ON LIVING SITUATION AND QUALITY OF LIFE
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Background: The aim of the study was to explore quality of life among people living with HIV and it is the first of its kind and size in Sweden.

Methods: In total, 1096 individuals responded to an anonymous survey which included different areas of life regarding self-rated quality of life. The study was performed at 15 health care units in Sweden, representing 75% per cent of the HIV care in the country, as well as two needle and syringe exchange clinics in Stockholm. The respondents are representative of the different sub groups of people living with HIV in Sweden.

Results: The participants reported high rates of general quality of life and 60% rated their general quality of life as 7 or above on the general quality of life scale that ranges from 0-10. However, the satisfaction with one’s economic situation was low and 70% of respondents were also displeased with their sex life, mainly due to difficulties to engage in sexual relationships. Twenty-five per cent had stopped having sex with others after being diagnosed, and another 25% of the respondents reported that HIV had had a negative impact on their ability to experience pleasure in relation to intercourse. Two aspects of HIV stigma significantly correlated with lower quality of life; other people’s attitudes to their HIV infection (concerns over public attitudes to people living with HIV) and self-stigma (negative self-image because of the HIV infection). No correlation was shown between quality of life and sex/gender, age, country of birth or city of residence. However, the results showed that psychological symptoms, psychiatric side effects from HIV medication, substance abuse and high consumption of alcohol, homelessness and low income correlated with lower quality of life.

Conclusions: Quality of life among people living with HIV in Sweden is generally high however the results show that quality of life is negatively affected by the social aspects of being open with your HIV status, issues of stigma, possibilities for abuse and high consumption of alcohol, homelessness and low income correlated with lower quality of life.

TUPED252
CHANGES IN QUALITY OF LIFE AMONG PLHIV IN ESTONIA FROM 2005 TO 2013
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Background: The HIV epidemic in Estonia erupted among PWID in early 2000s. Although HIV incidence has fallen from 108 to 21 per 100,000 (in 2001 and 2015, respectively), Estonia still has the highest incidence in Europe. The aim of our study was to evaluate quality of life (QoL) of PLHIV in Estonia throughout the epidemic.

Methods: Data from series of cross-sectional studies (2005, 2008, 2013) using convenience sampling and standardised data collection methodology were analysed. Patients from three outpatient HIV clinics providing care for over 320,000 people were interviewed during routine visits to the clinic. QoL data was gathered with WHOQoL-HIV Bref. Descriptive statistics with chi-square/ANOVA, and ANOVA followed by Tukey’s range test were used for statistical analyses.

Results: Table 1 shows differences among PLHIV receiving outpatient care in Estonia and Table 2 analyses changes in QoL throughout the years.

Table 1. Socio-demographic characteristics of participants by year of study, Estonia

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Men (%)</th>
<th>Age</th>
<th>Russian ethnicity</th>
<th>Employed</th>
<th>On ART</th>
<th>&gt;5y since first HIV+ test result</th>
<th>HIV acquired through IDU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>446</td>
<td>425 (95)</td>
<td>26±7</td>
<td>380 (86)</td>
<td>131 (29)</td>
<td>108 (24)</td>
<td>39 (9)</td>
<td>267 (60)</td>
</tr>
<tr>
<td>2008</td>
<td>441</td>
<td>416 (94)</td>
<td>29±6</td>
<td>380 (86)</td>
<td>136 (31)</td>
<td>219 (50)</td>
<td>92 (21)</td>
<td>235 (54)</td>
</tr>
<tr>
<td>2013</td>
<td>400</td>
<td>376 (94)</td>
<td>34±8</td>
<td>375 (94)</td>
<td>136 (34)</td>
<td>219 (43)</td>
<td>98 (25)</td>
<td>235 (54)</td>
</tr>
</tbody>
</table>

Note: Data presented as n (%). * data presented as mean±SD.

Table 2. Quality of life among PLHIV in Estonia using WHOQoL-HIV Bref

<table>
<thead>
<tr>
<th>Year</th>
<th>Health-related QoL</th>
<th>Environment</th>
<th>Social Relationships</th>
<th>Physical</th>
<th>Psychological</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>4.4±1.0</td>
<td>5.5±2.1</td>
<td>3.4±1.0</td>
<td>13.4±3.4</td>
<td>13.7±2.7</td>
</tr>
<tr>
<td>2008</td>
<td>4.5±1.1</td>
<td>5.6±2.2</td>
<td>3.5±1.0</td>
<td>13.6±3.4</td>
<td>14.2±2.8</td>
</tr>
<tr>
<td>2013</td>
<td>4.6±1.3</td>
<td>5.7±2.3</td>
<td>3.6±1.0</td>
<td>13.8±3.4</td>
<td>14.6±2.9</td>
</tr>
</tbody>
</table>

Note: Data presented as mean±SD. Post Hoc analyses show pairs of studies with statistically significant difference.
were defined as potentially vulnerable. Differences in behavioral and psychosocial outcomes based on median-split resilience scores were evaluated using SPSS Statistics 22 software.

**Results:** Of the 195 adolescents surveyed, 82 were identified as potentially vulnerable. Among these adolescents, those with higher resilience scores reported significantly lower behavioral problems using the total SDQ score (p < 0.009) with a mean score difference of 2.76 (SE: 1.02). On IQD sub-scales, vulnerable but resilient adolescents reported less conduct problems (p < 0.006), less hyperactivity/inattention (p < 0.022), and less peer relationship problems (p < 0.03). There were no significant differences on depression, anxiety, or emotional symptoms. While the 113 adolescents identified as non-vulnerable presented significant differences between those with high and low resilience scores on total SDQ scores (p = 0.038), none of the IQD sub-scales were significantly different.

**Conclusions:** The differences in psychosocial outcomes based on levels of resilience can provide guidance into new approaches for HIV prevention, care, and support. Findings indicate promising directions for resilience-focused adolescent interventions to strengthen psychosocial well-being among adolescents infected and affected by HIV.

**TUPED254**

**QUALITY OF LIFE IN HIV+ PATIENTS: RESULTS FROM THE HIV HEART COHORT STUDY**

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**Background:** The HIV-infection has changed from an acute life-threatening disease to a chronic infection and affects quality of life. The purpose of this analysis was to evaluate health-related quality of life (HRQoL) in the patient sample of the German HIV HEART study.

**Methods:** The HIV HEART cohort study is a prospective observational study that investigates the frequency and clinical course of cardiac disorders in HIV+ outpatients. HRQoL was assessed by the SF-36. We analysed patients who completed the SF-36 at baseline and at the 7.5-year follow-up in order to identify factors that influence HRQoL by linear regression models.

**Results:** Of 1,496 HIV-positive patients 298 fulfilled the SF-36 at baseline and at the 7.5 years follow-up. At baseline, the average age was 43.9±19.1 years, 88.9% were men, 29.2% in CDC stage C, and 44.6% in the immunological stage III. Mean HRQoL, according to the physical health summary (PMS) was 49.0±15.2 (baseline) and 47.1±10.3 (7.5years, p=0.022). Results for the mental health summary (MHS) indicate increases (43.9±11.8; 45.4±12.0, p=0.16). Age was a negative predictor for PHS (-1.3±0.1) and a higher education level a positive depression. (-5.0±0.07) was a negative determinant for MHS, smoking and hepatitis tend to be negative, while age and duration were marginally positive. The subscales indicate living alone as a negative and a HIV-RNA below the detection limit as a positive predictor.

**Conclusions:** HRQoL in patients with HIV may be significantly affected by age, HIV-specific measurements, sociodemographic factors (education-level) and lifestyle factors (smoking). Coinfection with hepatitis or depression decreases HRQoL.

**TUPED256**

**ABILITY AND WILLINGNESS TO CARE FOR CHILDREN IN A MATURE HIV EPIDEMIC: STREET-INVOLED CHILDREN, FOSTERING ATTITUDES AND THE CONSEQUENCES OF HIV AMONG KENYAN FAMILIES**

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**Background:** Within Kenya, an estimated quarter of a million children live on the streets, and 1.8 million children are orphaned. In this study, we analyze how HIV contributes to the phenomenon of child-homelessness, and ask whether mothers in HIV-affected households are willing to provide care for children in need of a caretaker.

**Methods:** We interviewed a random community-sample of caregiving women (n=1974) in Meru County, Kenya using a structured questionnaire in summer 2015. Items included reported HIV prevalence of respondent and her partner, family functioning, social support, overall health and three outcomes - whether the respondent’s child has a currently living on the streets, and whether the respondent was very willing to foster two designations of children - those biologically-related and those currently living on the streets.

**Results:** Controlling for alcohol use, education, wealth, age and household size, we found a positive graded association between the number of partners reported HIV+ and the probability that a child lives on the street, and an inverse graded association between number of reported HIV+ partners and willingness to foster children in need. Social support and overall health mediated only 10% of the association between living in an HIV-affected household and children migrating to the streets. Support, overall health and family functioning mediated 30% to 50% of the association between HIV-affected households and willingness to foster.

**Conclusions:** Reported child homelessness is strongly associated with household HIV, but the small percentage of mediated effect presents a greater need to focus on interactions between household and community factors in the context of HIV. HIV+ women are willing to foster, identifying them as potential assets in efforts to protect children - even more so with better social support, overall health and family functioning.

**TUPED257**

**YOUNG PEOPLE LEAD ALL THE WAY: EVIDENCED-BASED ADVOCACY IS THE WAY!**

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**Background:** With support from Stop AIDS NOW and GNP+, Uganda Network of People Living with HIV/AIDS (UNYNA) and Uganda Young Positives (UYP) undertook a 3-year Access, Service and Knowledge (ASK) Project for Young People Living with HIV (YPLHIV). We were supported to conduct PHDP research and use the results to improve knowledge, policies and programmes of YPLHIV. The aim of the programme was to implement an evidence based advocacy programme that focused on improving meaningful participation of YPLHIV in policy
development and HIV response by increasing awareness, knowledge and capacity, increasing respect of human rights, reducing stigma and discrimination and improving SRH services.

Methods: A qualitative approach was applied to this research, 275 youth were interviewed, using a structured questionnaire. The youth were selected using non-random sampling techniques from the districts of Gulu and Iganga. The results of the data collected from the PHDP research were used to better advocate for SRH services. YPLHIV were at the center of the program from development to evaluation. Advocacy tools such as position papers, social media etc were used. Routine data was collected for health facilities to measure progress.

Results: Organized advocacy meetings with parliamentarians and youth groups, used the platform to share advocacy messages developed by the young people. Organized campaigns to promote affordability, availability and accessibility of quality SRH services targeting service providers and policy makers and on Ending through a beauty pageant. Training of YPLHIV on policies, laws, type of rights for YPLHIV, human rights violations and protection, and access to human rights and legal services in Partnership with UGANET. Supported young people to hold their leaders accountable through training, mentorship and strategic advice. Worked with local health facilities in 3 districts in promoting and strengthening YSF services.

Conclusions: When advocacy is guided by evidence, it becomes a simple-walk-through, a venture difficult to challenge and people being targeted with the advocacy messages indeed see seriousness in the whole process. Through our PHDP research we have been able to advocate based on evidence and see results from our work.

TUPED258 MIXED-METHODS RANDOMISED CONTROLLED TRIAL OF AN INTERVENTION TO IMPROVE THE PATIENT-CENTREDNESS OF CARE FOR PEOPLE ON ART IN SOUTH AFRICA: PATIENT-REPORTED OUTCOMES AND IMPLICATIONS FOR METHODS AND ROUTINE PRACTICE

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2University of Cape Town, Family Medicine, Cape Town, South Africa

Abstract: Alternatives Cameroon, Psychosocial Unit, Douala, Cameroon

Background: People living with HIV in Africa self-report their greatest burden is for psychosocial and information needs. 2012/2020 policy requires greater numbers of individuals to be maintained in care, and evidence is needed of simple models to meet needs.

Methods: An RCT aimed to determine the effectiveness of a brief intervention of training (2 week duration) of ART primary care clinic staff in patient-centred assessment and a simple care plan, compared to standard care. Data were collected at Smoothly timepoints on three validated measures: PDS (multidimensional measure of social, psychological, physical and spiritual problems), GHQ (psychiatric morbidity) and MOS-HIV (mental and physical quality of life). Data were analysed using GLMM for multilevel modelling of ordinal longitudinal data. Qualitative data were collected.

Results: N=124 randomised, analysis conducted on n=59 control and n=57 intervention patients. Within-group significant improvements were found for all outcomes. Patients reported significant improvements on the POS in the intervention compared to control group (0.78, 95% C.I 0.36-1.21, pc 0.001). Item analysis revealed change was for “Help and advice to plan for the future”. No significant difference found for other measures. In qualitative data, control condition participants reported “Being in the study has helped me a lot...That money goes a long way. Also talking to you helps...you were listening.” Another control patient said “That is what I needed. I needed a friendly smile, a friendly person, a family and you were friendly, you were open, you were free.”

Conclusions: This trial offers important data to inform routine care and future trial design. Firstly, simple training of existing ART nurses achieved improvement in patient-reported help and advice to plan. Second, the teaching of simple communication skills (especially listening) to staff may achieve important and meaningful outcomes. Third, for future trial design to evaluate non-medical self-report outcomes our novel evidence indicates that: a) Even modest participation expenses can provide important psychosocial improvements; b) in the context of discrimination and social isolation associated with HIV, the impact of patient-reported outcome measures can be significant; c) in high volume clinic settings, time taken to express problems can be extremely beneficial.

TUPED259 SOCIAL-SUPPORT FOR ADOLESCENTS LIVING WITH HIV IN SOUTH AFRICA: IMPROVING ACCESS AND GAINING INSIGHTS INTO NEEDS AND BEST PRACTICES

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Background: Social-support is recognised as a critical component in addressing the HIV/AIDS crisis in adolescents. Adolescent social-support is associated with better health outcomes and treatment compliance. However, adolescents living with HIV/AIDS (ALWA) often have fragmented family-structures and fail to access treatment because of pragmatic challenges and fears of stigma. Social-support helps reduce stigma, but stigma hampers access to support when it is available. Also, to be effective, social-support must respond to recipients’ needs.

Description: Project Khuluma aims to enhance access to psychosocial-support for ALWA in South Africa. Peer-led support to groups of 10-15 ALWA are run via text-message for 3 months at a time. To date, 99 ALWA have participated in Khuluma. Pre-and post levels of social-support were measured using the Multidimensional Measure of Perceived Social-Support. Text-message conversations were thematically analysed to gain further insights into social-support needs.

Lessons learned: Preliminary evaluation indicates a significant increase in perceived levels of social-support after participation and a significant decrease in internalised stigma. Allowing adolescents to shape the support they receive through peer-to-peer conversations provides unique insight into challenges and best practices in support access and delivery. There need for ongoing social-support is huge. Most of the 40000 text-messages sent were social-support related. Many described feelings of loneliness and isolation. Through Khuluma adolescents accessed and offered one-another informational and emotional-support. Participants discussed challenges navigating relationships with others, and concerns about disclosure. But described feeling a “sense-of-belonging” through participating in a group, where they could talk candidly about their condition. Text-message-based communication is a preference among adolescents, and this likely contributed to high uptake.

Conclusions/Next steps: Khuluma helps ALWA build stronger networks of social-support with others facing similar struggles, and overcomes many barriers to accessing and providing social-support. Findings are positive and we aim to scale-up. Insights into the support needs of ALWA can also be valuable to policy-makers and programme-designers.

TUPED260 PSYCHOLOGICAL AND SOCIAL SUPPORT OF MSM LIVING WITH HIV, IN A HOSTILE ENVIRONMENT: RELEVANCE AND CHALLENGES

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Background: Since 2008, the Access Centre of Douala in Cameroon strives to offer to MSM living with HIV, health care free of any stigma. These people face several obstacles related to the double stigma of which they are victims, in a context that is particularly hostile to them. It therefore seemed clear from the start that the only medical care and follow-up would not be enough.

Description: The Access Centre is well structured into four autonomous yet interdependent Units : Human Rights Unit, Prevention Unit, Medical Unit and Psychological and Social Unit. The latter has developed activities related to the well-being of the beneficiaries of the Centre, including counseling, psychological consultations, positive life workshops, support groups, and vulnerability assessment. A diversified staff has been set up including psychosocial counselors, a social worker, psychologist, and therapeutic education specialists.

Lessons learned: The need of psycho-social support among MSM is more and more strong, more so than for medical consultations. In 2015, 400 medical consultations were given, against 1850 psycho-social support sessions. Participants discussed chal-

ginges of loneliness and isolation. Through Khuluma adolescents accessed and offered one-another informational and emotional-support. Participants discussed challenges navigating relationships with others, and concerns about disclosure. But described feeling a “sense-of-belonging” through participating in a group, where they could talk candidly about their condition. Text-message-based communication is a preference among adolescents, and this likely contributed to high uptake.

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Adaptation to Living with HIV for Individuals, Families and Communities

TUPED261
Facilitators of and Barriers to HIV Self-Management: Perspectives of HIV-Positive Women in China

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Background: In China, heterosexual sex is currently the most common transmission route for HIV. Many infected women belong to the high-risk category of commercial sex workers, but a significant number are noncommercial workers or spouses of men who have been infected by their husbands. At least one third of sexually active men who have sex with men in China are married, so a woman might be married to a high-risk partner without realizing the need to take precautions against HIV/AIDS. China currently faces an HIV/AIDS crisis in which increasing numbers of HIV-positive individuals will need antiretroviral therapy and psychosocial support to cope with the diagnosis and ongoing treatment. Little is known about self-management among HIV-positive Chinese women. Understanding the experiences of this population is needed to promote self-management. This study aims to explore perceived facilitators of and barriers to HIV self-management for HIV-positive Chinese women.

Methods: 27 in-depth interviews with HIV-positive women were conducted in Beijing and Shanghai. We recruited women who were diagnosed with HIV aged 18 years and above without significant cognitive problems who were receiving care at one of the two hospitals above, either inpatient or outpatient. To be eligible for the study, the women had to be willing to share their personal experiences with us.

Results: Facilitators included families being supportive after disclosure, patients learning how to live with HIV, antiretroviral therapy (ART) adherence, and rediscovering the meaning of life. Several barriers were also identified, including lack of support, stigma, fatigue, and financial difficulty. HIV disclosure is essential to obtaining necessary support. Ironically, disclosing to family members who stigmatize the disease may invite unwelcome responses. Helping HIV-positive women to decrease self-stigma and develop an effective way to disclose, if they choose to, is important.

Conclusions: To break the isolation of HIV-positive women in China, future interventions should focus on disclosure strategies, tailoring them to enhance social support and decrease self-stigma. This study provides valuable information for the development of HIV-related self-management interventions in China, especially for HIV-positive women. The study also has implications for programs that are tailored to populations in similar sociocultural circumstances.

TUPED262
Intervention for Service Providers to Support Maternal HIV Disclosure in Thailand

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Background: With the advent of antiretroviral therapy, mothers living with HIV (MLH) in Thailand are living longer. One of the main challenges facing MLH is on their decisions on whether, why, and how they disclose their HIV status to their HIV-negative children. Service providers in Thailand can play a critical role in supporting MLH around their disclosure decisions. The goal of this study was to develop and implement an intervention for service providers to assist MLH with their HIV disclosure to children in Northeastern Thailand.

Methods: In Phase 1, we explored the barriers around HIV disclosure to children through in-depth interviews with 10 service providers and 30 MLH. In Phase 2, we developed the intervention for service providers via focus groups with 20 MLH and 10 service providers. In Phase 3, we implemented the intervention with 40 service providers over 3 weeks.

Results: Phase 1 in-depth interviews revealed various factors influencing MLH’s HIV disclosure to children, including fear of privacy breach, self-blame, communication difficulties, fear of rejection. In Phase 2, for each of the barriers identified from Phase 1, the intervention content consisted of the following components: assessment of readiness for HIV disclosure, examination of the risks and benefits of HIV disclosure, and skills-building sessions to assist PLH with step by step behavioral practice around HIV disclosure. In the Phase 3 intervention pilot, 40 service providers participated in the 3-week intervention. At their 3-month follow-up meeting, service providers reported interacting with 106 MLH. Service providers reported having improved confidence and skills to better assist their MLH patients around HIV disclosure to their children. Service providers reported about 60% of MLH disclosed their HIV status to their children aged 7-17 years. The majority of MLH reported improved interaction with their children after disclosure, 97% reporting having no regrets about disclosing their status to children.

Conclusions: Our intervention pilot provided evidence for the next research phase of scaling up the intervention for service providers to better assist MLH around their HIV disclosure to children. We are currently developing strategies to integrate the intervention into the existing practice in the district hospitals.

TUPED263
A Descriptive Profile of Primary Caregivers of HIV-Infected Children in the Western Cape, South Africa

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Background: Antiretroviral therapy rollout in South Africa allows HIV+ people to live significantly longer. The growing number of HIV+ children increases the burden on society to provide primary caregivers, who have a demanding and time-consuming responsibility to provide quality care to these children. The purpose of the study was to create a descriptive profile of primary caregivers of HIV+ children in the Western Cape.

Methods: This cross-sectional study utilised data from a Caregiver Health Questionnaire (CHQ) completed by medical doctors during consultation with primary caregivers of 7-year-old HIV+ children. The CHQ provides background information and insight into the caregiver’s mental and physical health status, financial and social support, and any influence on the child’s adherence to ARVs. These children were on a follow-on study of the Children with HIV early antiretroviral (CHER) trial in the Family Clinical Research Unit, Tygerberg Hospital, South Africa. An adherence counsellor assisted with translations where necessary. Descriptive statistics were used to generate a profile of the caregivers. The biopsychosocial model served as the theoretical framework.

Results: The 79 caregivers in the study were all female, mean age of 35.1 years (range 23-55). The majority were Black Africans (84.8%), biological mothers (82.3%) and unemployed (59.5%). Only 26 (32.9%) biological fathers were living with the child. The HIV-infected children’s average age was 7.45 years, 54.4% were girls. The children’s WHO HIV disease stage was stage 4 in 49.4% and stage 3 in 40.5%. Information on the caregivers is summarised in Table 1.

Conclusions: The caregivers are generally young, Black African females and the biological mothers of the HIV-infected children. The majority were HIV+, unemployed and lacked financial stability. The fathers were primarily absent and not supportive. Our data suggest a need for support on several levels to assist the caregivers in performing their caring role of HIV+ children.
TUPE264  
ALLEVIATING STRESS AND IMPROVING FAMILY FUNCTIONING: RESULTS FROM A PRELIMINARY RCT OF A COUNSELING INTERVENTION FOR PARENTAL HIV DISCLOSURE IN CHINA

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Background: One of the greatest challenges for parents who are living with HIV/AIDS is the decision-making process of whether, when, and how to disclose their HIV status to their children. Parents around the world report significant disclosure related distress such as fear of stigma, discrimination and possible rejection, uncertainty about how to disclose, and anxiety about negative psychological consequences for the child. HIV-positive parents in China have a particularly difficult time navigating this decision, as it is a setting with acute HIV stigma, limited mental health resources, as well as strong prescribed familial roles and responsibilities. Research is needed on interventions to support parents through this difficult process.

Methods: 40 HIV-positive outpatients with at least one child (13-25 years old) who was unaware of the parent’s HIV diagnosis were enrolled in this trial at Shanghai Public Health Clinical Center. Participants were randomized to intervention or treatment-as-usual (TAU) arms with blind assessment. The intervention condition received three, hour-long, individual sessions over 4 weeks, which covered assessment, discussion of advantages and disadvantages to disclosure, psychoeducation about developmental appropriateness for children, psychoeducation about a continuum of disclosure behaviors ranging from no disclosure to full disclosure and open communication about HIV, and disclosure planning and practicing via role-plays.

Results: Primary disclosure related outcomes for intervention versus TAU were self-reported disclosure distress, self-efficacy, and disclosure behaviors. Secondary outcomes were parent child communication and family functioning. Cross-sectional (Wald tests) and longitudinal (general estimating equations) analyses at post intervention (4 weeks) and follow-up (13 weeks) demonstrated effects in the hypothesized directions of improved efficacy, behaviors, communication, and functioning, as well as decreased stress.

Conclusions: Our results suggest that nurses are able to deliver a counseling intervention for parents living with HIV in China, with the potential to alleviate parental distress related to HIV disclosure to their children as well as improve family functioning. These promising results for a brief intervention integrated into a primary HIV care clinic setting warrants future trials powered for efficacy.

TUPE265  
FAMILIES AFFECTED BY HIV/AIDS: CAREGIVERS’ AND CHILDREN’S RESILIENCE AND CHILDREN’S DAILY CORTISOL OUTPUT

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Background: Caregivers (with or without HIV infection) for children affected by HIV/AIDS may have to cope with their own or other adult family members’ disease issues, as well as with psychological problems such as emotional difficulties or concerns towards the future of children. However, some of them show capacities (i.e. resilience) to adapt in the face of trauma and stress and even assist other family members to achieve better adjustments. This study’s objective was to examine the effect of caregivers’ resilience on children’s health-relevant biomarker (daily cortisol output), as well as the mediating role of children’s own resilience in such an effect.

Methods: Using a structured survey, quantitative data were collected from a total of 645 (8-15 years old) children affected by HIV and their primary caregivers (parental or non-parental) in a rural county of central China. Children also provided multiple saliva samples daily (waking, 30 minutes after waking, late afternoon and bedtime) for three consecutive days to assess their total cortisol output over the days. Caregivers’ and children’s resilience was assessed via self-report using adapted Connor-Davidson Resilience Scale (CD-RISC).

Results: Children with higher resilience showed higher cortisol levels at awakening and higher total cortisol output over the day (area under the curve with respect to ground, AUC). Caregivers’ resilience was positively associated with children’s cortisol levels at awakening and total cortisol output. Beside the direct effect, we also found evidence for an indirect effect of caregivers’ resilience on children’s wake-up cortisol level and daytime total cortisol output through higher children’s resilience.

Conclusions: This work has implications for studying physiological functions among children affected by HIV/AIDS, and also suggests a pathway by which caregivers’ resilience influences children’s physiological functions and physical health. The capacities to adapt in the face of trauma and stress in HIV-affected families may be developed among both caregivers and their children.

TUPE266  
EXPERIENCES AND IMPACTS OF ANTIRETROVIRAL THERAPY

TUPE266  
BARRES TO AND FACILITATORS OF ANTIRETROVIRAL THERAPY (ART) ENGAGEMENT AMONG ADULT GHANAIAN MEN WHO HAVE SEX WITH MEN (MSM) LIVING WITH HIV

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Background: Antiretroviral therapy (ART) is highly effective for reducing HIV viral load, thereby allowing people living with HIV to live longer and reduce their risk of transmitting the virus. In Ghana, men who have sex with men (MSM) have HIV prevalence that is more than triple that of the general population. However, no research exists on factors that influence engagement in ART in this group. Consequently, this qualitative study examined the barriers and facilitators to ART engagement among adult Ghanaian MSM living with HIV.

Methods: Face-to-face interviews were conducted with 30 Ghanaian MSM living with HIV between May and July 2015. Participants were recruited through key informants and snowball sampling. All interviews were conducted in a private office at a local community based organization. Verbatim transcripts of the recorded sessions were read several times prior to developing a coding scheme.

All interviews were coded utilizing qualitative analysis software (NVIVO 10). Emergent barriers and facilitators were discussed with other authors and disagreements were discussed until consensus was reached.

Results: The average age of participants was 29.1 years (SD = 7.7) and more than half (N=16, 53%) self-identified as gay/homosexual. Participants described financial burden as the primary barrier to engagement in HIV medication regimen. They reported not having sufficient money to afford ART, food to take medicines with, transportation to health center, and other lab procedures (CD4 count and viral load) required for ART prescription. Other barriers that emerged included prior adverse side effects from ART, shortage of ART at pharmacies and uneasiness with being seen at an HIV-related health facility. Facilitators of ART engagement included perceived effectiveness and benefits of ART, fear of public manifestations of HIV symptoms, and social support from friends and family.

Conclusions: This study identified financial difficulties as the most common barrier to ART engagement. This finding highlights the need for more cost-effective strategies to make ART and other auxiliary expenses such as food and transportation to medical facilities affordable for Ghanaian MSM. This might help prolong the lives of those affected by HIV and reduce their risk of infecting others.

TUPE267  
“I TOLD HER THIS IS YOUR LIFE”: HOW PRIMARY PARTNERS HELP OVERCOME BARRIERS RELATED TO ART ADHERENCE IN SOUTH AFRICA

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Background: While South Africa’s ART program is one of the largest in the world, structural and psychosocial factors prevent HIV-positive individuals from achieving optimal adherence. Social relationships can help HIV-positive individuals overcome barriers to HIV care and treatment; however, little is known about the ways in which primary partners may affect each other’s adherence to ART in South Africa. We qualitatively explored how relationship factors and partner support influence adherence to ART within heterosexual couples from rural KwaZulu-Natal, South Africa.

Methods: Twenty-four adult heterosexual couples (48 individuals) with at least one HIV-positive partner were recruited from local healthcare sites using maximum variation sampling. HIV-positive partners were sampled based by gender and length
of time on ART. Semi-structured interviews were conducted separately, but simultane-ously, with each partner between November 2014 and March 2015. Topics discussed included: relationship history and future aspirations, relationship dynamics, intimate partner violence, experiences with HIV care and treatment (i.e., adherence, barriers to care and treatment), and HIV-related social support. Data were analyzed using an iterative thematic approach in Dedoose.

Results: The majority of couples were concordant HIV-positive (92%) and both on ART (63%). Barriers to ART adherence included: lack of transport and money to travel to clinics, limited nutritious food options, incarcерation, alcohol consumption, inability to pick up ARTs because of work or travel, and service delivery issues at ART clinics. Participants described how primary partners helped them overcome these barriers through the provision of instrumental, informational, and emotional support. Forms of instrumental support included: providing transport or money to travel to the clinic, money for food, assistance preparing and purchasing healthy food; reminding a partner to take pills and attend appointments; and picking up pills. Informational support included: encouraging partners to stop drinking alcohol, eat healthy food, and adhere to medication. Emotional support included: providing love, comfort, and reassurance of one’s commitment to the relationship.

Conclusions: Findings reveal that primary partners are important pillars of support for ART adherence, especially in a context of high unemployment and poverty. Future interventions that encourage and leverage these supportive relationships could improve ART adherence among heterosexual couples in similar settings.

TUPE269
COMPARISON OF DIFFERENT SELF-REPORTED ART ADHERENCE MEASURES: A QUANTITATIVE STUDY IN CHINA

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Background: Antiretroviral treatment (ART) benefits HIV-infected persons by controlling viral replication, and reducing the likelihood of opportunistic infections. To obtain full benefits of ART, maintaining optimal levels of adherence is crucial for people living with HIV/AIDS (PLWH). Most studies have used subjective measures to assess adherence based on self-report of dosage in a certain time window. Various self-reported measures have been used but unclear how they are good in predicting clinical outcomes (CD4 counts, viral load). The current study aims to compare several self-reported ART adherence measures in terms of their associations with HIV clinical outcomes.

Methods: A total of 2,987 PLWH was recruited from 12 cities/counties in Guangxi, China to participate in a cross-sectional survey on health condition. Participants who received ART (n=2,050) were asked about medicine adherence issues. The ART adherence measures include dosages missed in past 3 days, days of taking medicine as prescribed in past 1 month, days of not taking medicine as prescribed in past 1 month; whether or not miss a dosage, the frequency of missing a dosage, and whether or not miss a dosage in past weekend. Correlation test and linear regression models were used for continuous adherence measures and one-way ANOVA and GLM were employed for categorical measures.

Results: Controlling basic demographics, CD4 counts were significantly associated with dosage missed in past 3 days (β=−0.092, p<0.001), days of taking ART as prescribed in past 1 month (β=−0.194, p<0.0001), and days of not taking ART as prescribed in past 1 month (β=−0.046, p=0.041). GLM results suggest that CD4 counts was significantly associated with whether or not miss a dosage (F=4.544, p=0.033), frequency of missing a dosage (F=3.399, p=0.013), and whether or not miss a dosage in past weekend (F=3.259, p=0.039). Only dosage missed in past 3 days was significantly related to virus loading level (F=7.761, p<0.001).

Conclusions: Self-reported measure is useful to assess ART adherence because of its significant association with clinical outcomes among PLWH. However, measures with various recall windows and expressions differ in magnitude of the relations to clinical outcomes, which should be fully considered in selecting measurement in future.

TUPE268
THE CRUCIAL ROLE OF THE FAMILY CONTEXT: FAMILY FUNCTIONING AND DEPRESSION IN HIV PATIENTS ON PUBLIC-SECTOR ART IN SOUTH AFRICA

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Background: As a chronic illness, HIV/AIDS requires life-long treatment adherence and retention - and thus sufficient attention to the psychosocial dimensions of chronic disease care in order to produce favourable antiretroviral treatment (ART) outcomes in a sustainable manner. Given the high prevalence of depression in chronic HIV patients, there is a need for further research into the determinants of depression in this population. In order to comprehensively study the predictors of depressive symptoms in HIV patients on ART, the socio-ecological theory posits to not only incorporate the dominant individual-level and the more recent community-level approaches, but also incorporate the intermediate, but crucial family-level approach.

Methods: The present study aims to extend the current literature by simultaneously investigating the impact of a wide range individual-level, family-level and community-level determinants of depression in a sample of 435 patients enrolled in the Free State Province of South Africa public-sector ART program. Structural equation modeling is used to explore the relationships between both latent and manifest variables at two time points.

Results: Besides a number of individual-level correlates - namely education, internalized and external stigma, and avoidant and seeking social support coping styles - of depressive symptoms in HIV patients on ART, the study also revealed the important role of family functioning in predicting depression. While family attachment to not only incorporate the dominant individual-level and the more recent community-level approaches, but also incorporate the intermediate, but crucial family-level association.

Conclusions: The immediate and long-term impact of family functioning on depression draws attention to the role of family dynamics in the mental health of people living with HIV/AIDS. In addition to individual-level and community-based factors, future research activities should also incorporate the role of the family context in research into the mental health of HIV patients, as our results demonstrate that the familial context in which a person with HIV on ART resides is intrinsically interconnected with his/her health outcomes.

TUPE270
RESULTS OF THE SEPO II STUDY: EXPERIENCES OF HIV-RELATED EPISODIC DISABILITY AMONG WOMEN AND MEN ON ART IN LUSAKA, ZAMBIA

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Background: The concept of “episodic disability” (i.e., fluctuations of wellness, illness and disability) was developed in Canada to describe the experience of people living long-term with HIV since the advent of ART in the 2000’s. Framing challenges in terms of “episodic disability” contributed to health care and employment policies in Canada. However, HIV-related episodic disability has not been explored in Sub-Saharan Africa despite increased access to ART in the region in the last decade. The objective of this study was to explore experiences of HIV-related episodic disability among women and men on ART in Lusaka, Zambia.

Methods: “Sepo II” is a qualitative longitudinal study involving three in-depth, semi-structured interviews approximately 6 months apart with participants from public and private health clinics in Lusaka, Zambia. Thirty-five participants were purposefully recruited for variability by gender (17 men, 18 women), time on treatment (1-13 years), and socio-economic status. Interpretivist analysis was conducted on 98 in-depth interviews using the collaborative “DEPICT” method (Flicker & Nixon, 2013). The study was guided by the WHO “International Classification of Functioning, Disability and Health” (ICF), and O’Brien’s “Episodic Disability Framework”.

Results: Participants described diverse experiences of episodic disability across the three interview rounds. Greatest fluctuations were described in terms of “im pairments” (e.g., fatigue, pain, memory challenges) and “participant restrictions” (e.g., shifting social roles), which are disablement concepts in the WHO ICF. Participants
frequently described multiple co-existing forms of disablement, of varying degrees of severity (from bothersome to extremely limiting), and which were improving, resolving or worsening in unique patterns. Despite these narratives of disablement, participants also consistently emphasized their gratitude for life-saving ART and, paradoxically, often described themselves as doing well.

Conclusion: This is the first study to describe the experience of episodic disability among women and men living with HIV in a Sub-Saharan African context. Findings point to the need for health and social service providers to consider the diverse challenges beyond the medical model that are faced by people on ART who may report “doing well”. Rehabilitation and “disability” frameworks can help illuminate the episodic health- and life-related impacts of living longer with HIV.

TUPE271
ADHERENCE WITH COMBINATION ANTIRETROVIRAL THERAPY (cART): DO CHALLENGES STILL PERSIST?

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Background: The primary goals of cART are to maximally suppress viral load, restore and preserve immune function, reduce morbidity and mortality, improve quality of life, and prevent HIV transmission. Adherence to cART continues to be a challenge in the treatment of HIV. Partial adherence can result in failure to maintain virologic suppression and permit the development of ARV resistance through viral mutation. This study focuses on the factors that drive adherence to cART and to determining their importance in choosing an cART regimen among patients and physicians.

Methods: In mid-2014, two cross-sectional Internet-based surveys were conducted in the US with 400 patients on cART and with 200 physicians who treat HIV. The online surveys were pretested with respondents prior to administration. The patient survey included assessments of quality of life, HIV treatment experience, medication side effects, adherence behaviors, treatment satisfaction, and interaction with health care providers. The physician survey addressed similar topics to allow for comparisons between HIV patients and physicians.

Results: The patient sample consisted of predominantly males (79.3%) with an average age of 41.1 (SD = 13.2) years. Sixty-one percent reported being homosexual, while 28.1% reported heterosexual, and 11.1% bisexual. The physician sample had an average age of 41.1 (SD = 13.2) years. Sixty-one percent reported being homosexual, and 28.1% reported heterosexual, and 11.1% bisexual. The physician sample included assessments of quality of life, HIV treatment experience, medication side effects, adherence behaviors, treatment satisfaction, and interaction with health care providers. The physician survey addressed similar topics to allow for comparisons between HIV patients and physicians.

Top Reasons for Not Taking HIV Medications as Prescribed (ranked by Patients)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Patients (%)</th>
<th>Physicians (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forgetting to take</td>
<td>31.5%</td>
<td>69.5%</td>
</tr>
<tr>
<td>Not having pills available (e.g., away from home, on vacation)</td>
<td>25.9%</td>
<td>30.3%</td>
</tr>
<tr>
<td>Felt ill or sick</td>
<td>19.5%</td>
<td>44.5%</td>
</tr>
<tr>
<td>Change in daily schedule</td>
<td>12.9%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Feeling depressed/overwhelmed</td>
<td>12.9%</td>
<td>26.1%</td>
</tr>
</tbody>
</table>

[Table 1. Comparison of Reasons for Non-Adherence According to HIV Patients and Physicians]

Conclusion: Adherence challenges persist with cART for both physician and patients. HIV and its treatment has a substantial impact on patients' lives and many factors come into play in decision-making by both the patient and the physician.

TUPE272
“SOMETIMES YOU FEEL LIKE YOU HAVE NO CHOICE BUT TO BEAR WITH IT ALL”: HOW MUCH DO WE UNDERSTAND SIDE-EFFECTS OF ARVs ON LIVES OF WOMEN LIVING WITH HIV?

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Background: WHO promotes far-reaching ARV coverage for prevention and treatment of HIV, yet little is known about long-term adherence to ARVs and their effects in relation to physical, sexual, psychological or other dimensions of women’s lives. The aim of this study was to examine ARV side-effects in women living with HIV.

Methods: A global online values and preferences survey was commissioned by WHO. It was informed and shaped by a Global Reference Group of 14 women living with HIV and included an optional section on HIV treatment and side-effects. The survey contained a mix of closed questions (quantitative analysis) and free text responses [qualitative analysis].

Results: Of 832 women aged 15-72 from 94 countries who completed the online survey, 434 (52%) responded to the optional treatment section. Of these, 88% were on treatment. Only 11.9% reported no side-effects. The mean number of different reported ARV side-effects was four including fatigue (64.8%), mood changes (47.1%), headaches (40.6%), body dysmorphia (40.2%), loss of libido (37.5%), strange dreams (29.9%), and menstrual disorders (24.1%). These affected women’s ability to enjoy a healthy and satisfying sex life; to work; and to enjoy social activities. Singly or collectively, side-effects put strains on relationships, led to financial insecurity or poverty, and contributed to mental ill-health, including loneliness, isolation, stress, anxiety, and depression. Respondents reported limited information about side-effects, especially at treatment initiation, and felt that health providers did not take side-effects seriously. Regarding an undetectable viral load, some women expressed potential or actual reduced ability to negotiate condom use, to protect against STIs or pregnancy.

Conclusion: These findings have implications for treatment roll-out, warranting attention from policy makers and providers alike. Urgent research is required to understand: to what extent is it possible to adhere to medication which reduces quality of life, especially if women start ARVs when feeling well; how women’s concerns about STIs and unplanned pregnancy can be addressed in the context of treatment as prevention; whether and how coercion and potential gender-based violence can be avoided in relation to ARV uptake; and the risks, benefits and safety of long-term medication use.

TUPE273
EDDIES, BACKFLOWS AND STAGNANCY: QUALITATIVE RESEARCH FINDINGS FROM EASTERN AND SOUTHERN AFRICA ON THE HIV TREATMENT CASCADE AND ITS ‘GOODNESS OF FIT’

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Background: The HIV treatment cascade has become a guiding model for delivering medical HIV services, focusing on sequential steps, from the initial diagnosis of HIV through to viral suppression. Although commentators have recently argued that it fails to resonate with the complex and lived realities of people living with HIV, no previous multi-country qualitative study has interrogated the use-value of the HIV treatment cascade model - from the perspective of users and providers themselves - to develop recommendations for a second generation of HIV care continua frameworks.

Methods: Data is drawn from a multi-country study examining how people living with HIV (PLHIV), and their sociality, interact with the HIV treatment cascade. Studies took place in Uganda, South Africa, Tanzania, Kenya, Malawi and Zimbabwe and involved in-depth interviews with 180 HIV service users, 36 HIV service providers and 36 relatives of people known to have died from AIDS. Ethical clearance was obtained in each country. Data were coded in NVivo10 using inductive and deductive approaches to identify emerging themes.

Results: Findings reveal a mismatch between how PLHIV experience and engage with HIV care and the linearity assumed by the treatment cascade framework. PLHIV - across all sites - were observed to step in and out of HIV services in multiple and unpredictable ways, and levels of engagement were variable. This led to different forms of disruption to progression along the cascade, influenced by three
Factors: i) contextual influences, including partner, family, and community relations, cultural norms and socio-economic circumstances; ii) quality of health services, including patient-provider relations and trust; and iii) individual agency, with some PLHIV being fed-up with taking drugs, and others seeking alternative services and starting over.

Conclusions: Biomedical HIV treatment trajectories do not resonate with the frequently unpredictable ways in which PLHIV interact with HIV services. 90-90-90 targets place an even narrower emphasis on the cascade and may inadvertently result in lost opportunities to support PLHIV who do not readily align their care-seeking to restrictive pathways. Second generation HIV care continua frameworks are needed that are more flexible and patient-centered, and recognize how sociality and agency interface with individual HIV care trajectories.

TUPE274
LOOKING AT ADHERENCE THROUGH A DISABILITY LENS
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Background: Antiretroviral therapy (ART) has changed the lives and expectations of millions of people living with HIV. However, maintaining treatment effectiveness and viral suppression requires strict adherence to treatment. As current programmes targeting adherence begin to lose speed, the effects of co-morbidities and disabilities on adherence are increasingly being considered. While the effects of many co-morbidities have received substantial research interest, the impact of functional limitations/disabilities is seldom explored.

Methods: This paper draws on baseline cohort data of 1042 people on ART in a public healthcare setting in Kwazulu-Natal, South Africa. The study examined functional limitations/disability (WHODAS-2.0), depressive symptoms (CES-D10), HIV-related health symptoms, adherence (CASE index), livelihood (social, financial, physical/natural, and human capital), food security (U.S. Household Food Security Survey Module: Six-Item Short Form), and biomarkers such as CD4 and BMI. The analysis explored associations with missed treatment and included descriptive statistics, bivariate, and multivariate analyses.

Results: 83% of participants scored with perfect adherence (no missed/delayed treatments) and only 7% scored below the threshold for adequate adherence. Depressive symptoms and mobility limitations were experienced by 26% and 22% of participants respectively, and both were associated with worse adherence. 13% of participants experiencing mobility limitations were not adequately adherent, as compared to 6% in the rest of the population. Similarly, 13% of participants experiencing depressive symptoms were not adequately adherent, as compared to 5% in the rest of the population. Multivariate analyses controlling for age, gender, ARV duration, and exposure to shocks found that depressive symptoms and mobility impairments were the most significant predictors of inadequate adherence.

Conclusions: Given the current focus on treatment adherence within the Fast-track strategy and the 90-90-90 goals, it is important to identify drivers of non-adherence. While mental health has previously been highlighted, this study suggests that disabilities may be just as important in achieving adherence. Given this finding, there is a need for further inclusion of rehabilitation services in the continuum of HIV care. Additionally, more rigorous research is needed to better understand the role of disability as a barrier to adherence and how rehabilitation can be used to mitigate this risk.

TUPE275
ARE HIV ANTIRETROVIRAL THERAPY PROGRAMMES POSITIVELY AFFECTING RISKY BEHAVIOUR AMONGST PATIENTS? A REVIEW OF THE SOUTH AFRICAN HIV INCIDENCE PROVINCIAL SURVEILLANCE SYSTEM (HIPSS) DATA
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Background: South Africa has the largest HIV treatment programme with >3,000,000 people accessing antiretroviral treatment (ART). Studies show that patients on ART present a lower risk of transmitting HIV to sexual partners. However, few studies have investigated the impact of exposure to HIV services, specifically HIV counselling and testing and accessing health facilities, have on the risk behaviour of clients on ART.

Methods: The HIV Incidence Provincial Surveillance System (HIPSS) collected data in 2014-2015 from randomly selected individuals aged 15 to 49 years in 9554 households in the uMgungundlovu District in KwaZulu-Natal, South Africa. Adjusted odds ratios (aOR) were calculated by means of a logistic regression.

Results: In total, 3855 (40%) HIV positive participants were categorized into individuals on ART (40%); those who knew their status but were not on treatment (19%); and those who did not know their status and were not on treatment (41%). The majority of respondents were female (75%) with the mean age of 33.5 years (SD = 8). Participants unaware of their status were more likely to use condoms inconsistently in the previous 12 months (83.1%) than those who knew their status but were not on ARVs (74.5%) and those who were on treatment (65.4%, p < .001), additionally, they were more likely to have more recent sexual partners (p = .001) than persons aware of their HIV positive status. After controlling for sex, age, marital status and socioeconomic status, HIV positive individuals on treatment were more twice as likely than those unaware of their status to use condoms consistently: in the previous 12 months (aOR=2.642, p < .001), with their most recent partner (aOR=2.875, p = .003) and after consuming alcohol (aOR = 2.196, p < .001). Moreover, individuals on treatment were less likely to have consumed alcohol than those individuals who were not on treatment but knew their status (aOR= 0.522, p < .001).

Conclusions: The results highlight less risky sex and behaviour amongst persons on ART than those who are not. This could suggest that exposure to HIV services reduces risky behaviour and further affirms the importance of expanding testing and treatment coverage.

GROWING UP WITH HIV: SPECIFIC NEEDS AND INTERVENTIONS FOR CHILDREN, ADOLESCENTS AND YOUTH
TUPE276
“BECAUSE THEY CARE”: UNDERSTANDING PATHWAYS TO CLASSROOM CONCENTRATION PROBLEMS AMONG HIV-AFFECTED CHILDREN IN WESTERN KENYA
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Background: Children and young people living in households affected by HIV are experiencing poorer educational outcomes compared to their peers. A number of interwoven factors - including patterns of parental loss, mental health, household poverty and young caregiving - have been identified as key influences on their educational attainment. This article explores how these forms of marginalisation interface and manifest themselves in classroom concentration problems, undermining their education.

Methods: This mixed qualitative methods study was conducted with teachers and pupils from three primary and three secondary schools in the Siaya county of Western Kenya. Specifically, it involved 18 teachers through individual interviews and 57 HIV-affected children and youth through an assessment questionnaire (n=57), individual interviews (n=47) and Photovoice (n=51). Verbatim transcripts were imported into NVivo 10 for thematic indexing and analysis.

Results: The analysis revealed three pathways to classroom concentration problems amongst HIV-affected pupils. One, in the context of household poverty and illness, a general ‘lack of care’ and neglect meant that many of the participating pupils went to school hungry, unable to follow classes. Others, through looking visibly poor, were teased by peers, and felt anxious when in school. Two, many participating pupils had their minds at home ('caring about'). They were concerned about sick or frail household members, thinking about their next meal and care needs. Some even worried about returning home to find their loved one deceased. Three, some HIV-affected pupils play a key role in keeping their household afloat, generating food and income as well as providing practical support. ‘Caregiving’ pupils often reported coming to school exhausted, with limited physical and mental energy left for learning.

Conclusions: Care, household poverty and familial HIV emerged as central to understanding the classroom concentration problems of HIV-affected pupils. Pupils’ ethics of care, whether through ‘caring about’ or ‘caregiving’, not only demonstrate their profound sense of empathy and responsibility, but can, in a deprived context, have severe consequences for their education. These findings suggest that keeping HIV-affected children in school is only part of the solution. To ensure they learn, education initiatives must simultaneously alleviate household poverty and other challenges pertaining to familial HIV.
TUPE277
BUILDING BRIDGES BETWEEN COMMUNITIES, HOUSEHOLDS AND HEALTH FACILITIES TO ADDRESS BARRIERS TO PEDIATRIC HIV TREATMENT AND CARE

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Background: Uganda has estimated 123,754 pregnant women living with HIV. Approximately 23% of them are not in HIV care and nor are their babies. Despite progress made against HIV, the treatment coverage for the 193,500 children under 14 is 31%. There is need to accelerate PMTCT to reduce the number of new HIV infections among infants and increase the number of HIV-positive children on treatment. There is still ignorance around pediatric HIV, coupled with stigma and discrimination in communities, health facilities and households. Spouses are not disclosing their status to each other, fearing separation or domestic violence; this hinders early testing and ART initiation for children. Economic situations can also hinder them from accessing clinics.

Description: The TAFU project (Towards an AIDS Free Generation in Uganda) aims at reducing new HIV infections among infants and increasing the number of children on treatment in 2 districts in Uganda. The project builds bridges between communities, and health facilities, mobilizing communities to access HCT, treatment and adherence support, and creating awareness around pediatric HIV treatment and care for children.

The program has encouraged community ownership at district and community level; creating linkages and referrals from households to health facilities; forming child, peer and church support groups for adherence support. Implementation is through 45 Village health teams (VHTs) trained and mentored in pediatric HIV TAFU project achievements October-December 2015;

-366 children and pregnant women identified, referred and enrolled into ART care from 216 household visits by VHTs;
-24 religious leaders trained on pediatric HIV to promote couple communication and flight stigma and discrimination in communities;
-100 households with children living with HIV linked to village loans and savings scheme for economic empowerment.

Lessons learned: Involvement of religious and local leaders in mobilization, community dialogues and open couple dialogues has reduced stigma and discrimination and increased uptake for pediatric HIV care and treatment.

Conclusions/Next steps: Access to pediatric HIV treatment requires a holistic approach from household to community and health facility. This will increase uptake of to treatment for children living with HIV.

TUPE278
HOW DO YOUNG PEOPLE LIVING WITH HIV FEEL ON ANTIRETROVIRAL THERAPY?: THE NEED TO ADDRESS SIDE-EFFECTS AND TREATMENT DISENGAGEMENT

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Background: Poor adherence and treatment disengagement are of great concern, especially among adolescents. Recent research with young people (YP) highlights a scarcity of opportunities to share their perspectives on the impact of HIV and antiretroviral therapy (ART) on their lives. In addition, their time in clinical care and on treatment significantly shape the meanings they attach to both HIV and ART. Yet there remains limited research about the psychosocial effects of treatment- and HIV-related symptoms on YPs’ health, well-being and adherence behaviours.

Methods: A longitudinal qualitative study embedded within a randomised controlled trial (BREATHER) testing the safety of a treatment interruption intervention (Short Cycle Therapy (SCT)). We repeatedly interviewed 43 YP throughout the trial (38% total YP; age 11-22 years, who knew their HIV diagnosis and gave additional consent) in UK/Ireland (7), USA (10) and Uganda (26).

Focus groups with 25 trial participants and interviews with 16 of their caregivers were also held in the Ugandan site at the end of the trial. The qualitative study explored YPs’ experiences of the BREATHER trial as well as broader issues of ART adherence.

Results: Treatment side-effects and physical symptoms were not a specific focus of our study, yet they emerge as central to how participants spoke about their conditions. Views about pills and toxicity, fear of future illness (particularly from non-adherence), neuro-cognitive difficulties, anxiety and hunger, were all notable features of participants’ narratives. Interviews with caregivers further suggest the centrality of the physical dimension of HIV and ART for the YP in their care (e.g. specific diets, weight gain or loss, drug toxicity, issues with concentration) and the way in which feelings about ART might affect YPs’ adherence.

Conclusions: The physical dimension of HIV and ART for YP living with HIV and particularly for adolescents, remains poorly understood. Further evidence, including our study findings, can help us illuminate how clinical understandings of HIV and ART interplay with community and personal narratives and how these might shape health and adherence behaviours. In the future, this may inform ways to engage and support YP in relation to how they feel about their health and bodies.
Background: With the increasing number of adolescents beginning to understand and disclose their HIV status through self-care, the disclosure process gains importance in the care and support programmes. Disclosure needs to be driven in a timely and correct manner, so as to help adolescents living with HIV to understand dating sexual relationships, paving way for an informed and healthy lifestyle.

Methods: In 2015, Human Touch initiated a qualitative study among adolescents aged 12-19 living with HIV in Goa, India, and with their parents and care providers. The study employed interviews and focus group discussions basically focusing on the disclosure of HIV status to ALHIV, their disclosure of status to their friends and partners and the impact of being disclosed and disclosure to others.

Results: Six main barriers were identified through the study: sex, still being considered a taboo, hides parents from communicating with their children; fear of being stigmatized in school and community setting; parents not able to gauge the appropriate time to disclose and post disclosure concerns including well-being and treatment non-adherence.

Conclusions: While regular disclosure of status to their partners and friends, fear of rejection and status being known to many, leading to more stigmas were the main barriers identified. In some cases, programs by NGOs offering psychosocial support helped adolescents come to terms with HIV diagnosis. Common findings of disclosure identified were anxiety, depression, self-blame, fear of not being able to get married, have a family, not being able to pursue career ambitions, and not being accepted for higher education in professional courses. But some adolescents exposed to psychosocial support programmes of organizations shared of increased access to treatment and adherence and support in forming healthy relationships.

Conclusions: There is a need for specific interventions in the public health programs for the government. The personnel need to be trained in handling this emerging challenge. Parents, teachers and care givers need to be trained to assess and understand the capacity and maturity of their adolescents and to determine the appropriate time for disclosure. Post disclosure, there should be access to on-going support to prevent disclosure from negatively affecting their psychological and sexual well being.

TUPE281
EFFECTIVE ROLE SHARING FOR HEALTHY BODY MASS INDEX STATUS AMONG HIV-POSITIVE CHILDREN AND CAREGIVERS

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Background: Poor development is one of the most urgent and critical problems among HIV-positive children. Many studies have been conducted to identify barriers to healthy growth. Recently, the positive deviance approach has been advocated as a unique strategy in the field of child nutrition, which focuses on positive individual behaviors, rather than barriers. In this study, we analyzed HIV-positive children with healthy body mass index (BMI) status and identified the associated factors.

Methods: A cross-sectional study was conducted in Kigali, Rwanda. To obtain each patient chart for HIV-infected children aged 7-15 years across 4 high-volume pediatric HIV clinics. Disclosure counselors created individualized counseling plans for participants and documented disclosure status and psychosocial issues on a structured disclosure counseling form. Counselors had access to culturally adapted resources (e.g. disclosure video narratives, HIV educational pamphlets) created from previous qualitative work with this cohort. To evaluate implementation of these resources and identify critical themes related to disclosure and child behavioral outcomes, we used thematic analysis of the counseling encounter notes, with progressive coding and constant comparison. Themes were coded and triangulated among multiple reviewers.

Results: Counselors documented 349 counseling encounters related to 122 children, using disclosure videos (127), HIV information books (128), and pamphlets (19). For caregivers of non-disclosed participants, common themes included disclosure preparation and adherence management. Videos were most often used with caregivers to overcome disclosure barriers (e.g. child not ready, fear child’s reaction) and initiate the disclosure process, particularly for children suspecting their status. Two themes arose related to post-disclosure in children: positive functioning (e.g. mild demeanor, accepting of HIV status) and poor functioning (e.g. worsened adherence, personalized HIV stigma). For “poor functioning” children, counselors used HIV information books and videos, encouraging children to understand and accept their HIV status. Counselors noted improved child adherence and psychosocial issues (e.g. stigma reduction, acceptance of status) after using the tools.

Conclusions: Culturally-adapted disclosure tools were used by disclosure counselors to mitigate disclosure barriers with non-disclosed caregivers and improve post-disclosure functioning. Understanding the content of typical disclosure counseling sessions provides input for the design of future disclosure counseling interventions and for counseling implementation.
Results: Among 314 children with documented participation in the disclosure intervention, 111% knew their HIV status at enrollment and 38% reached complete disclosure following enrollment. The average time to complete disclosure was 2.5 years (IQR: 1.2 - 2 years). Among children who reported no or incorrect knowledge of why they take their medicine, 83% showed improved understanding after the intervention, defined as knowledge of HIV status or adopting intervention-specific language to discuss their medication use.

[Figure: Changes in HIV knowledge between enrollment and the time of data abstraction]

Children who achieved complete disclosure were more likely to be older, have lower viral loads, and have been on ART longer. In comparisons before vs. 12-24 months after participating in the disclosure intervention, viral load decreased by 0.5 log copies/ml (N=53, p-value=0.006) while mean adherence scores increased by 7 percentage points (N=73, p-value=0.019) in children who had been on ART >18 months at enrollment and had pre and post enrollment measurements collected.

Conclusions: This HIV disclosure intervention was associated with improved disclosure rates, HIV knowledge, and clinical outcomes in HIV-infected children and adolescents.

TUPED284

TARGETING SERVICES ADOLESCENT GIRLS AND YOUNG WOMEN LIVING WITH HIV: SIMPLE MAY BE BETTER

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Background: The growing numbers of adolescent girls and young women (AGYW) living with HIV in sub-Saharan Africa face myriad challenges. SHAZ! (Shaping the Health of Adolescents in Zimbabwe) is a combination intervention designed to improve access and treatment adherence among AGYW living with HIV in Zimbabwe.

Methods: 710 participants enrolled in an RCT of SHAZ! (life skills and livelihoods training, comprehensive SRH/HIV care and treatment) vs a control condition of treatment uptake and clinical support alone. Intent treat analysis assessed differences in outcomes across four domains: economic resources; treatment adherence and CD4; relationship power; and HIV risk behaviors.

Results: At enrolment, median age was 18, and CD4 count was 343 (200, 526). 30% had primary education or less; and 70% had not used a condom at last sex. At 18 months, study retention was 84%. Those reporting in school or engaging in paid work increased from 34% to 65% in the intervention group compared to 38% to 33% in the control group (p<0.001). No changes were reported on measures of mental health or social support; however, high relationship power- as measured by the sexual relationship power scale- increased from 28% to 45% in the intervention group only. Overall, ART uptake increased from 48% to 74%, with an average 41 point increase in CD4 count and over 50% achieving CD4 counts of over 500. Reported adherence at 18 months was 98%. Experience of intimate partner violence decreased from 17% to 5%. While all of these improvements represented statistically significant changes from baseline to endline (p < 0.01 or less), there were no statistically significant differences between study arms on these factors. No changes were observed from baseline to endline in condom use, or other risk behaviors such as transaction sex.

Conclusions: This analysis showed effects of SHAZ! on economic status and relationship power, but not on risk behaviour. The significant and meaningful shifts among all participants on treatment uptake and clinical outcomes suggest that targeted SRH/HIV services and treatment support - without necessarily overlaying additional complex interventions - has great potential to improve scale-up of treatment and adherence for this population.

TUPED286

IS DIFFERENTIATED CARE TRULY DIFFERENTIATED FOR ADOLESCENTS LIVING WITH HIV?

QUALITATIVE FINDINGS FROM ZIMBABWE AND SOUTH AFRICA

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Background: To achieve the goal of ‘Treat All’, the WHO has endorsed the differentiated care model - whereby service delivery models are targeted to specific requirements of each population. For adolescents, an emphasis of differentiated care is defined by the WHO as: equitable, acceptable, appropriate, accessible and effective. Employing differentiated care may be particularly important for adolescents living with HIV. Given that AIDS is the second leading cause of death for all adolescents, improving quality and effectiveness of HIV treatment is of paramount importance. This study reports on the differential SRH support needs between adolescents living with perinatally acquired HIV versus those with horizontally acquired HIV.

Methods: YPLWH (n=18) were trained as peer researchers to undertake qualitative interviews with their peers (aged 16-25) recruited from support groups in Zimbabwe (n=24) and from clinics in South Africa (n=24). There were equal numbers of men and women. Discussions focused on disclosure, and access to SRH information and services. English language transcripts were thematically analysed.

Results: Key differences emerged between adolescents who acquired HIV perinatally versus adolescents who acquired HIV horizontally. Adolescents living with HIV who acquired it horizontally displayed greater internalised stigma than those who had acquired HIV perinatally; this was reflected through more frequent use of words like “being diseased” and attributing acquisition to ‘having behaved badly.’ All participants faced HIV disclosure challenges; adolescents living with HIV acquired vertically highlighted frustrations in learning about their HIV-status long after their caregivers knew and being left out of treatment decisions. Lack of social support was more common in those who acquired HIV horizontally. There were important similarities, in particular all young people’s desire to receive appropriately-tailored services that respond to their specific needs and that enable them to take control of their health and wellbeing. Young people were also concerned with protecting others, through receiving timely ART care and support and comprehensive SRH services.

Conclusions: Adolescents living with vertically-acquired HIV have different SRH care and support needs to adolescents living with horizontally-acquired HIV. HIV and SRH services need to be tailored to support the differentiated YHLV needs in order to promote optimal health outcomes.

TUPED286

FINDINGS FROM PROJECT KHLUMA: A MOBILE PHONE SUPPORT GROUP INTERVENTION FOR HIV-POSITIVE ADOLESCENTS IN SOUTH AFRICA TO ADDRESS THEIR MENTAL HEALTH AND WELLBEING NEEDS

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Background: Owing to a conglomeration of psychosocial risk factors including the lack of social support, adolescents living with HIV/AIDS (ALWHA) are at increased risk of mental health problems leading to poor health outcomes. There is a need to develop models that provide regular psychosocial support to ALWHA that are immediate and accessible. With this challenge in mind the SHM Foundation designed and implemented the Khulum model, providing support via mobile phone to groups of 10-15 ALWHA’s from clinics in Pretoria and Cape Town. Khulum is based on the

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principle that support groups are an effective way of providing support, but there are barriers to attending them. Because it provides access to support whenever, wherever, and allows for anonymous communication, Khuluma breaks down some barriers (including worries about stigma and discrimination; lack of transport funds or time) to adolescents’ attendance. The model assists clinics as there is no need for trained staff onsite or a designated space. An evaluation of Khuluma was conducted based on pre-post data from 99 participants who participated between December 2013 and February 2015. The information-motivation-behavioural skills (IMB) model informed the assessment of changes to participants’ perceptions of stigma, social support, knowledge of HIV and adherence to medication.

Description: Khuluma provides facilitated and interactive support to groups of 10-15 peers via text-message. Groups run for three months, participants can communicate amongst themselves and with a facilitator. Guest speakers are invited to run discussions on topics such as nutrition or sexual health. Baseline and exit questionnaires are conducted. Text-messages are analysed for content.

Lessons learned: Participants clearly have a need/desire to communicate openly with their peers, over 40,000 text-messages were sent between 99 participants - each participant sends 6 SMSs daily. Results from the evaluation show a significant increase in feelings of social support, a significant decrease in internalised stigma and some important insights into the complexities of medical adherence. Khuluma provides an alternative way for making support accessible to ALWHA and some important insights into the complexities of medical adherence.

Conclusions/Next steps: Khuluma has the potential to be expanded through clinics as a way of providing social support to ALWHAs using trained facilitators who do not have to be physically onsite.

TUPE287
THIS IS ME: A DOCUMENTARY HIGHLIGHTING EVERYDAY LIFE OF A HIV-POSITIVE ADOLESCENT IN SOUTH AFRICA GOING THROUGH THE JOYS AND CHALLENGES OF ADOLESCENCE

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Background: Adolescence can be a beautiful time of life but at the same time this age brings a lot of challenges. These challenges are even more significant for adolescents living with HIV. In South Africa, over 15% of young women and 5% of young men aged 15-24 are infected with HIV (UNAIDS, 2010). Despite efforts to raise national awareness of HIV/AIDS and advance treatment options, there is still a lot of work to be done to address mental health challenges of these adolescents to make the general public aware of these challenges. There is a need to pay more attention to the mental health and psychological well being of young people living with HIV and create opportunities where young people can freely express how they feel. The SHM Foundation is creating a documentary This is me which takes an innovative and positive approach to highlighting the importance of addressing the mental health needs of HIV positive adolescents.

Description: This is me is a 15 minute documentary, the documentary will show the everyday life of a 16 year old boy who is HIV positive, who has a positive attitude to life and who, just like any other boy in his age, is going through the joys and challenges of adolescence. The film will follow him over two weeks, filming his everyday life and the conflicts and challenges he faces at home, school and with friends due to being an adolescent living with HIV.

Lessons learned: Co-creation of the documentary with HIV positive adolescents is essential in order to get the messaging and tone right. It is critical that there are more opportunities to show what it is like for an HIV positive adolescent in South Africa to navigate through life with the condition and to become accepted and understood by our society, because only then they can live fulfilled and active lives.

Conclusions/Next steps: We plan that This is me will go on tour around South Africa, with showings taking place in schools as well as at international film festivals.

TUPE288
“WALKING TOGETHER”: CULTURAL ADAPTATION OF AN EVIDENCE INFORMED PSYCHOSOCIAL INTERVENTION TO ADDRESS THE NEEDS OF PHPV+ YOUTH IN THAILAND

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Background: Pediatric HIV has become an epidemic focused on adolescents, most of whom live in low resource countries with unmet psychosocial needs. Thailand has the highest HIV prevalence in Asia with more than 14,000 children with HIV. There is an acute need for evidence based interventions targeting mental health of perinatally infected HIV+ youth to improve adherence, reduce risky behaviors and decrease mortality rates.

Description: The Collaborative HIV Prevention and Adolescent Mental Health Program + (CHAMP+) is an evidence informed, family based HIV prevention and mental health promotion program developed specifically for PHPV+ early adolescents and their families, that has been pilot-tested in the U.S.A., Argentina and South Africa. Thai and US research teams used community-based participatory research (CBPR) methods to adapt CHAMP+ to the Thai cultural context. Formative research with PHPV+ youth, adult caregivers and health providers informed program changes to address language; cultural beliefs/concepts and Thai family life. “Walking Together” (Thai CHAMP+) consists of 11 sessions using a cartoon format and delivered via multiple family groups. Sessions focus on family communication, coping strategies, disclosure, stigma, social support, and HIV education. A small scale RCT pilot of the intervention is concluding this year with 88 PHPV+ youth participants.

Lessons learned: Culturally informed adaptations can be made while maintaining the core components responsible for program effect. The cartoon format (originally used in CHAMP+ South Africa) was selected by Thai stakeholders since it enabled reflective dialogue about key issues for HIV+ youth, made content available to those with limited literacy skills, and facilitated discussion of culturally “taboo” topics. Original cartoon story line was changed to reflect Thai culture and family life.

Conclusions/Next steps: Preliminary results of the current pilot indicate that the cultural adaption of CHAMP+ was critical to engagement and acceptability of the intervention within the Thai context. Feasibility and acceptability data plus feedback from participants will inform further adaptations to ensure intervention efficacy and effectiveness.

TUPE289
HIGH RISK FOR LOSS TO FOLLOW-UP AMONG ADOLESCENTS LIVING WITH HIV IN PUNE, INDIA

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Background: Access to HIV care in paediatric population has increased substantially in developing countries through national programs. Existing data suggest that children are more likely associated to loss to follow-up due to vulnerability and multifaceted social challenges. We aimed to assess the rate of loss to follow up (LTFU) and risk factors associated among children visiting Sassoon General Hospital’s ART centre in Pune, India.

Methods: We conducted a prospective cohort analysis of children (0-19 years) registered for care between 2000 and 2014. The cohort was divided into two age groups ≤12 years and >12 years. Multivariable Poisson regression was used to explore the association between age, gender, CD4 count, WHO staging and LTFU.

Results: 6156 children were registered for care during the study period. Of these, majority were male (60%), had a baseline CD4 count <350 cells/μL mm (67%) and were on ART (88%). 292 (4.7%) were lost to follow up. Total loss to follow up among children ≤12 years was 7/1000 person years (PY) as compared to 16/1000 PY in those >12 years (p<0.001). In multivariable analysis, children >12 years were at a higher risk of being lost to follow up (adjusted incident relative risk[aIRR] 1.95, 95% Confidence Interval (CI) 1.5 - 2.5) as compared to children ≤12 years. Lower CD4 counts (<200 cells/μL mm) was associated with higher risk of being lost to follow up (aIRR: 1.6, 95% CI: 1.1-2.1) as compared to those with CD4 counts ≥350 cells/μL mm.
Children who presented clinically in WHO stage IV disease were at higher risk (aIRR: 2.4, 95% CI: 1.7-3.2) of lost to follow up as compared to those in stage I disease.

Conclusions: Adolescents with HIV (>12 years of age) have almost 2-fold higher risk for LTFU. Future studies should seek to understand barriers to retention in care among adolescents and consider interventions that include counselling, psychosocial support including peer support groups to reduce the risk of LTFU and improve the health, and quality of life.

TUPED290
PANGAEA GLOBAL AIDS & THE CLINTON HEALTH ACCESS INITIATIVE (CHAI) BEST PRACTICES CASE STUDY SERIES: ZVANDIRI CATS MODEL: SUPPORTING HIV+ ADOLESCENTS

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Background: Pangaea Global AIDS, in partnership with the Clinton Health Access Initiative (CHAI), produced a series of case studies documenting and costing effective approaches to HIV service delivery in Sub-Saharan Africa. In Zimbabwe HIV-positive children and adolescents face challenges with adherence, retention and their overall psychosocial well-being. Afgican, an NGO based in Harare launched the Zvandiri program, which provides psychosocial and clinical support to HIV+ children and adolescents.

Description: Zvandiri interventions are led by Community Adolescent Treatment Supporters (CATS), HIV+ adolescents that play a central role in identifying and addressing barriers to adherence and retention through home visits, SMS messages and tablets to capture client data and adherence, and adolescent corners within clinics. Other CATS services include strengthening the capacity of health care providers to meet the needs of HIV-positive children and adolescents through trainings and mentorship.

Lessons learned: From August 2009 to December 2014, CATS conducted a total of 18,115 home visits in eight districts of Harare province; 12,248 were primarily for adherence support. In 2014, the CATS program in Harare province served more than 3,800 clients and registered over 1,100 clients in three additional provinces. By November 2014, a total of 1,476 health workers had been trained in providing adolescent friendly services for HIV-positive youth. In 2014, Zvandiri reported a 90 percent retention rate among clients served by CATS. Self-reported adherence by age was 90%, 72% and 83% for ages 5-9, 10-14 and 15-19 respectively. The cost of the CATS model in 2014 was $52.39 per client per year in Harare, however modeling the utilization of CATS at both facility and community level strengthened the identification and support for individuals at risk for poor adherence and lost to follow up. Its approach includes facilitating an enabling social environment that has demonstrated improvements in the overall health and psychosocial well-being of their clients. This model - which is being scaled up nationally - can inform other countries that face similar challenges in reaching children and adolescents.

Conclusions/Next steps: The utilization of CATS at both facility and community levels strengthened the identification and support for individuals at risk for poor adherence and lost to follow up. Its approach includes facilitating an enabling social environment that has demonstrated improvements in the overall health and psychosocial well-being of their clients. This model - which is being scaled up nationally - can inform other countries that face similar challenges in reaching children and adolescents.

TUPED291
INSIGHTS ON THE COMPLEXITIES OF MEDICAL ADHERENCE AMONGST HIV-POSITIVE ADOLESCENTS IN SOUTH AFRICA

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Background: Adherence to medication for any chronic illness is difficult, but HIV/AIDS-treatment can be particularly challenging, especially for adolescents living with HIV/AIDS (ALWHA). Adherence needs to be near perfect for ART to be effective. However, adherence is not just remembering to take medication as prescribed. There is strong evidence that various social, emotional and psychological factors can have a significant impact on adherence. Although there is increasing awareness of the factors that affect ART adherence, it remains difficult to accurately assess. Understanding and improving treatment adherence among adolescents requires attention.

Methods: The Khuluma Project provides psychosocial support to ALWHA in peer groups run via text-message. Participants complete a treatment adherence checklist at enrolment and after participation in Khuluma. Over three months, participants can communicate openly with one another along with a facilitator. With 99 participants having participated to date, there is rich conversation data that can be further analysed (over 40,000 text messages). To explore some of the complexities associated with adolescent ART adherence, the Khuluma team extracted text-message conversations related to the subject. These conversations were coded and thematically analysed using a flexible framework developed from relevant literature.

Results: At enrolment most participants reported, in the checklist questionnaire, that they had few problems with medical adherence. However, in Khuluma they began to talk openly about sometimes missing medication doses. In their own words participants were able to discuss the range of practical and emotional reasons that they might default on treatment, including disrupted routine, a lack of social support, feelings of anger, fear of stigma and trouble managing side-effects. There was no one reason why they missed their medication and their reasons in some cases varied over time. Participants encouraged one another to take their medication and discussed strategies for integrating treatment into their daily lives.

Conclusions: Understanding and improving medical adherence among ALWHA requires ongoing engagement and dialogue, and is better understood through conversation than check-list questions. The messages sent by the participants to each other about medication may be a valuable resource for designing health promotion campaigns or improving communication between health practitioners and patients.

TUPED292
DIAGNOSIS DISCLOSURE AMONG CHILDREN LIVING WITH HIV IN A RESOURCE LIMITED SETTING: AN OBSERVATIONAL STUDY FROM NORTH INDIA

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Background: With better understanding of HIV pathogenesis and availability of antiretroviral therapy, more children are growing and entering in teen age group, making informing children about their HIV status an important aspect of long-term disease management. There is little evidence on perception of caregivers on how and when this type of disclosure should take place in resource-limited setting.

Methods: A cross-sectional study was conducted during 2010-12 among a day of 156 children and their caregivers, attending pediatric clinic at a tertiary care hospital in Delhi, India. Study protocol was approved by the Institute Ethics Committee of AIIMS. After taking written informed consent; pretested structured questionnaire was administered to caregivers during routine clinic visits. Information regarding socioeconomic characteristics, awareness of their HIV status among children and caregivers’ perception regarding disclosure was collected. Mean and proportions were calculated and chi-square and logistic regression test were applied.

Results: The mean age of children was 8.4 ±3.5 years. Among them, 73.7% were male and 39.1% were orphan. Among 156 enrolled children, 74.4% (n=116) were of ≥ 6 years and were assessed for disclosure. Only 18.1% (n=21) children had been informed of their HIV status. Of those under 9 years, 6.4% knew their status, whereas 18.4% of 9-11 years and 35.5% of 12-14 years children knew that they had HIV infection. Awareness among males (23.3%) was higher than females (3.3%). Both age and sex of child were significantly (p<0.01) associated with disclosure status. Other factors favoring disclosure were orphan-hood, non-parental mode of transmission (OR = 4.32; 95% CI 1.01-7.12), ART initiation (OR = 4.21; 95% CI 1.03-6.98), and caregiver educated beyond primary level (OR = 1.89; 95% CI 1.03-3.26). Repeated enquiry regarding the visit to clinic was the most common reason (66.6%) for disclosure. In 52.4% children disclosure was done with the involvement of other family members. 82.5% caregivers felt the age of > 10 years is appropriate for disclosing the HIV infection status to the child.

Conclusions: Detailed guidelines on disclosure are required for children of school-going age with perinatal infection who are not on ART and with caregivers of low educational status.
Background: Family-based interventions hold promise for promoting child mental-health and wellbeing for families affected by HIV in low- and middle-income countries (LMIC). HIV-affected families report higher rates of alcohol-use, intimate partner violence (IPV) and family conflict, which can have detrimental effects on children. Few evidence-based interventions exist to address these complex issues in Sub-Saharan Africa.

Methods: Quantitative and qualitative data from an 82-family pilot randomized controlled trial of a family-based intervention were collected and used to test for alcohol-use in HIV-affected Rwandan families. The study was conducted using a mixed methods approach to integrate findings. Family inclusion criteria were at least one adult HIV-positive caregiver, at least one school-aged child (7-17 years). Mean scores of self-reported caregiver alcohol, IPV and child mental health at baseline, post-intervention and post-three months of follow-up among families assigned to the intervention, were compared and examined for those receiving treatment as usual. Individual semi-structured interviews were conducted with children and caregivers at baseline, post-intervention and post-follow-up. Qualitative data from 35 intervention families’ clinical notes and interview transcripts from 11 families identified as experiencing issues with alcohol and IPV were analyzed.

Results: Of the 61 caregivers in intervention families, most were female (n=42; 68.9%), HIV-positive (n=52; 85.3%), with a mean age of 41. Of 93 children in intervention families, most attended school (n=87; 96.7%). Alcohol was reported as a problem for many families in the intervention. Of participants reporting alcohol-use at baseline, those assigned to family-intervention reported less alcohol-use over time, compared to those receiving usual treatment. Nearly three-fourths (73%) of caregivers married or living with a partner reported an experience of IPV at baseline. Mean scores indicate reduced IPV among intervention participants over time compared to those receiving usual treatment. Reductions in alcohol use and IPV among caregivers are supported by qualitative reports of improved family functioning, lower levels of violence and problem drinking as well as improved child mental-health, among the intervention group.

Conclusions: Family home-visiting interventions merit exploration for their potential to reduce problematic caregiver behavior related to alcohol, IPV and family-conflict and promote child mental-health for families affected by caregiver HIV in Rwanda.

TUPE293
EXPLORING THE POTENTIAL OF A FAMILY-BASED PREVENTION INTERVENTION TO REDUCE ALCOHOL USE AND VIOLENCE AND PROMOTE CHILD MENTAL HEALTH WITHIN HIV-AFFECTED FAMILIES IN RWANDA

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Background: Children affected by HIV and are at risk for poor mental health. We conducted a pilot randomized controlled trial (RCT) of the Family Strengthening Intervention (FSI), a family home-visiting intervention to promote mental health, improve parent-child relationships, provide HIV psychoeducation, and reduce conflict among caregivers living with HIV. We hypothesized that child and family outcomes would be superior to usual care social work services.

Methods: 82 families (N=170 children, 48.8% female; N=123 caregivers, 68.3% female) with at least one HIV-positive caregiver (n=103, 83.74%) and school-aged child (ages 7-17) (HIV+: n=21, 12.35%) were randomized to receive FSI or treatment-as-usual (TAU), stratified by single- or dual-caregiver families. Local research assistants blinded to treatment conducted assessments of child mental health, parenting practices, and family functioning at baseline, post-intervention, and at 3-month follow-up. Multilevel modeling assessed effects of TAU on outcomes across three time points.

Results: At 3-month follow-up, children in TAU reported fewer symptoms of depression (β=−.221; p=.043) compared to TAU. TSI was differentially effective depending on family structure. Post-intervention, single caregivers in TSI reported more social support than those in TAU (β=.678; p=.005). Immediately post-intervention, children in TSI reported fewer indicators of good parenting compared to TAU (β=.316, p=.048), but this difference was not maintained at 3-month follow-up (β=.353, p=.749) likely reflecting the process of HIV disclosure in families. Qualitative findings suggest potential reductions in problematic alcohol-use and violence within TSI families.

Conclusions: Children and families affected by HIV merit special attention by policymakers, health workers, and researchers. HIV-related stressors, family functioning, and child mental health are inextricably linked and can be addressed via family-based preventive interventions. Family-based prevention holds particular promise for reducing child mental health problems linked to caregiver HIV. Future research on TSI should further investigate the effects of family structure and potential for reductions in problematic alcohol-use and family violence. Future trials should examine the effects of TSI over time in trials powered to examine family configuration.
TUPE296
HOW SOCIAL WORK CAN SUPPORT PEOPLE LIVING WITH HIV AND CHANGES IN COGNITION: RESULTS OF A MIXED-METHODS, COMMUNITY-BASED RESEARCH STUDY
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Background: It is estimated that 50% of the 75,500 people living with HIV in Canada will be affected by at least one asymptomatic form of HIV-Associated Neurocognitive Disorder (HAND) (CATIE, 2015; St. Michael’s Hospital, 2014). As the number of people living with HIV over the age of 50 increases, social workers and other helping professionals need to adapt to meet people’s changing needs.

Methods: Using a Participatory Action Research (PAR) framework a research team comprised of social workers and people living with HIV developed an explanatory sequential mixed-methods study to understand the support service needs of people over the age of 50 who are living with HIV and concerned about HAND. Purposive and snowball sampling were combined to recruit research participants into a survey and interviews offered in English and French from April to November 2015 in Toronto, Canada. An iterative data analysis process was employed whereby three independent coders used NVivo to separately identify key themes. The peer researchers were presented with these analyses and the research team collaboratively determined the project’s findings.

Results: 108 survey respondents identified:
1) their concerns about living with HIV and changes in cognition;
2) their knowledge and experience of social work; and
3) then gaps they identify in current HIV-related programs and services related to cognitive health. 66% of survey participants were aged 50-59 and 88% identified as male. 54% were diagnosed with HIV prior to the introduction of Highly Active Antiretroviral Therapy (HAART) in 1996. 20 survey participants, 25% of which identified as female, participated in interviews based on the survey responses. Interviewees detailed:
a) how the Social Determinants of Health have impacted their lives; 
b) experiences with HAND screening/testing; and
c) how social workers and grassroots community-based HIV organizations can improve their work with older adults living with HIV.

Conclusions: Based on a sample of people living with HIV who are concerned about their cognitive health in an urban Canadian city, these findings have implications for the shape and content of programs and services for people aging with HIV as we work towards improved health outcomes for people living with and affected by HIV/AIDS.

TUPE297
EXPLORING EXPERIENCES OF OLDER AFRICAN-AMERICAN MALES AGING WITH HIV IN THE RURAL SOUTH-EASTERN UNITED STATES
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Background: It is estimated that 50% of adults living with HIV in the U.S. are 50 years of age or older. A disproportionate number of men who are HIV+ are African-American. With medications extending life expectancy for decades, HIV+ men are dealing with the disease in the context of other age-related illnesses. However, there is limited data regarding the experiences of older HIV+ African-American men.

The purpose of this study was to explore the experiences of older African-American men living in rural areas in the southeastern U.S. who may be especially vulnerable due to limited resources.

Methods: In Spring 2015, data were collected through face-to-face interviews with 35 HIV+ African-American men living in 5 communities in the southern U.S. Inclusion criteria were: HIV+ for 5 years or greater, identifying as African-American, 50 years of age or older; and providing informed consent. The guiding question was: “Can you tell me what it is like aging with HIV in a rural community?” Demographic data were also collected. Verbatim transcripts of the audio-recorded interviews were analyzed using content analysis.

Results: The men in the study ranged from 49 to 66 years of age (M = 55.6), and had lived with HIV for a mean of 20.1 years. Nine men had less than a high school education with 16 having completed technical school or at least some college. Nineteen men reported an income of less than $10,000/year. Twenty-seven men currently live alone. Five men had been diagnosed with AIDS. The qualitative analysis of study transcripts revealed 6 overlapping themes and 21 sub-themes. Primary themes included: Stigma, Doing Fine, Family Support, Self Care Behaviors, Access to Resources, and Dealing with Age Related Diseases and HIV. Conclusions: The majority of men reported they have what they needed and remained positive. Men acknowledged facing stigma, but their family support is strong. Some men reported their belief that HIV has changed their lives for the better. This study provides new insight into the lives of rural African-American men, and expands our understanding of how these men are dealing with HIV and why many return or remain in rural communities.

TUPE298
POSITIVE AGING: INDIGENOUS PEOPLES AGING WITH HIV/AIDS
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Background: Largely due to treatment advances, the number of older people living with HIV is growing. For Indigenous peoples in Canada this is an important area of concern given over-representation in the HIV epidemic. This research contributes a novel focus on positive aging experiences of older HIV-positive Indigenous peoples within Indigenous contexts.

Methods: Using community-based research informed by Indigenous methodologies, we conducted four sharing circle sessions and four in-depth interviews [n=34] with participants attending the Canadian Aboriginal AIDS Network’s Wise Practices Conference. Separate sessions were held for HIV-positive men and women. One session explored the perspectives of community/health service providers. All participants self-identified as First Nations, Inuit or Metis with participants ranging in age from 32 to 63 and HIV-positive for 5 to 29 years. Thematic analysis was used to extrapolate themes.

Results: Several interconnected themes (dimensions of health) emerged in our analysis as important in the context of successful aging (SA) for Indigenous peoples living with HIV and facilitating holistic health: spiritual (connection to land, ceremonies); social engagement (connections with families, community, tribal nation); physical (e.g., diet, exercise, managing co-morbidities, adherence and abstinence from substance use); emotional (e.g., cultivating self-love and acceptance); and mental (confronting stigma, cultivating self-esteem, achieving self-acceptance). The way in which individuals find their own balance between the five dimensions manifests in a nonlinear way. Recognition of the interconnectedness of the five dimensions means that individuals can move freely from one dimension to the next, and back again, until the individual finds the right balance necessary to actualize SA.

Conclusions: Based on the need for research identified in this project we are working towards building a larger exploratory study to examine ways in which Indigenous peoples experience growing older living with HIV. Our goal is to identify culturally resonant approaches to care for this population to support emerging practice implications that suggest the need for community and health services to conceptualize and deliver social/health care from within an Indigenous holistic worldview. It is essential that such research be developed in ways which are congruent with Indigenous culturally-defined notions of health.
Results: Women described a lack of prior knowledge, leaving them under-prepared for menopausal symptoms. For women born in Sub-Saharan Africa (n=16), this was exacerbated by cultural taboos around discussing menopause, and loss of kinship networks during migration.

Menopause in the context of HIV brought particular challenges. Participants were concerned that menopause could be precipitated by HIV-infection or ART, whilst some were reluctant to take further medication such as hormone replacement therapy when already on ART. Common symptoms such as hot flushes, mood changes and poor sleep, sometimes impacted on ability to adhere to ART. Many participants did not recognise their menopausal symptoms, instead attributing them to ART side-effects or HIV. Furthermore, they found themselves “going backwards and forwards” between primary healthcare providers (HCPs) and HIV-physicians when seeking advice and clinical care, often leading to frustrating delays. Participants highlighted the importance of supportive HCPs and accessible information on HIV and the menopause, and the need for ongoing peer-support, many describing their participation in the FGDS, often their first opportunity to discuss menopause with other WLWH, as “empowering.”

Conclusions: This is one of the first qualitative studies to explore experiences of the menopause in WLWH. Participants encountered particular challenges in the recognition and management of the menopause as a result of also being HIV-positive. Increasing awareness among patients and HCPs, developing HIV-specific patient resources, and peer-support networks may help support WLWH at this stage in their lives and limit negative impacts on their HIV care.

TUPE300
SOCIAL NETWORK AND SUPPORTS AMONG OLDER GAY AND BISEXUAL MEN: THE IMPACT OF HIV
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Background: As of 2015, half of those with HIV in the U.S. are age 50 and older, and 60% are gay/bisexual men (CDC, 2013). Older gay/bisexual men tend to have friend-centered social networks, regardless of HIV status. HIV-positive older adults are at high risk for multimorbidity, leading to increased needs for caregiving and support. Perceptions of social support sufficiency have been identified as critical resources in coping with illness. We examined the impact of HIV-infection on the social network configuration, dynamics and support needs of gay/bisexual men 50 and older.

Methods: Data was derived from a convenience sample of 146 men age 50 and older who self-identified as gay/bisexual at an LGBT community center; 46% report being HIV-positive. The HIV-positive group were younger than the HIV-negative group (55.4 vs. 63.4 years). Two-thirds of HIV-positive group identified as Black or Hispanic, while in the HIV-negative group 16% were racial/ethnic minorities. Bivariate analysis of group differences on social support resources employed chi-square tests and one-way ANOVAS. Perceptions of instrumental and emotional support sufficiency indices were regressed on HIV status and demographic, health, and social support variables to examine the impact of HIV on perceived social support.

Results: Older gay/bisexual men with HIV reported lower income adequacy, and greater multimorbidity compared with their peers. HIV-positive men received more assistance from family, but were also more likely to perceive instrumental and emotional support as insufficient. Regression models on instrumental and emotional support sufficiency indices found demographic, health, and social support factors as significant covariates (R² = .35 and .37, respectively), but HIV status was not significant when controlling for other factors.

Conclusions: HIV-positive older gay/bisexual men have greater needs compared with their non-infected counterparts, as evidenced by inadequate incomes and greater multimorbidity. The high levels of unmet need for informal social support leads to the conclusion that HIV-positive sexual minority men will increasingly turn to community-based sources for needed support. It is vital that policies are in place to strengthen the social resources of older gay/bisexual men with HIV, and assuring that community-based providers have the competency and resources necessary to serve this population.
INTIMATE PARTNER VIOLENCE AMONG OLDER WOMEN WITH HIV
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BACKGROUND: There is increasing evidence of bidirectional links between HIV and intimate partner violence (IPV), particularly for women in sub-Saharan Africa. Much of the literature is focused on adolescent women; however the growing ageing HIV-infected population requires an assessment of IPV among older women.

METHODS: We conducted interviews between late 2014 and early 2015 with patients aged 50 years and older attending a HIV treatment facility for routine monitoring visits in Johannesburg. Patients were approached in the waiting room, consented and interviewed in a private consulting room. Data were entered into Stata SE 13 and analyzed descriptively. We report on data from female participants and their IPV experience documented by the WHO intimate partner violence scale.

RESULTS: 108 people participated in the survey, of which two-thirds were female (n=78). Mean age of female participants was 57.3 years with over 70% being single (either widowed, divorced/separated or never married). At the time of the interview two-thirds reported not having a partner and not being sexually active in the past 12 months. Approximately one-quarter of women reported ever experiencing partner violence more than 6 months ago. Almost 20% reported having been threatened or coerced sex. 20% also reported a partner using physical force (hit, held down or threatened with a weapon) to coerce sex. Other reports of violence included being choked, threatened with a knife or gun (21%); beaten up, burned or scars (26%); pushed, grabbed or slapped (30%) or had their hair or arm twisted or an object thrown at them (31%). Given that women were overwhelmingly single, reports of partner violence in the past 6 months were low (under 2%).

CONCLUSIONS: This cohort of older women with HIV report more lifetime IPV than has previously been documented in partnered South African women aged 15-49 years. These findings suggest that HIV seropositive older women’s experience of violence might have directly or indirectly contributed to their HIV transmission and could impact on their autonomy in accessing and remaining in care. Routine IPV screening of these older women is warranted.

ACCESSIBILITY OF ELDERLY ADULTS TO HIV SCREENING SERVICES IN CAMEROON
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BACKGROUND: Older persons are less likely to seek care even basic healthcare and, according to the 2014 Guttmacher report on maternal mortality, to have less access to services than do younger age-groups, suggesting an element of age-related exclusion (UN, 2002; African Union, 2003; Lloyd-Sherlock P et al, 2010). The UNAIDS update for 2009 stated that “even though the largest share of new infections in many African countries occurs among older heterosexual couples, relatively few prevention programmes have specifically focused on older adults” (UN, 2009).

METHODS: We administered structured questionnaires on 321 elderly adults aged 255 years, selected through an incident sampling techniques in two Cameroon communities. Data were analysed using Epi-Info 7. Descriptive and analytic statistics was used to measure access. Chi-Squared test was used to test for association between socio-demographic characteristics and access to HIV screening. Accessibility to HIV screening was defined as having done at least once an HIV screening test at least once over a lifetime.

RESULTS: The median age of the participants was 59 years. The sex distribution for males and females was 54.5% and 45.5% respectively. 99/321(30.1%) had never done an HIV test in their entire life. Amongst those who had done an HIV test, only 136/233(58.4%) had done it within the past one year. Just 132/321(41.1%) reported that a doctor or nurse ever requested an HIV test for them in their entire life. Factors associated with access (P< 0.05) included; occupation, average monthly income, level of education and living with a chronic disease.

CONCLUSIONS: These results suggest that elderly people have limited access to HIV/AIDS services. There is need for appropriate measures especially from the dimension of health care providers to improve access to health care services amongst these elderly adults.

THE HEALTH CARE EXPERIENCES OF ADULTS AGED 50 YEARS AND OLDER LIVING WITH HIV IN BOTSWANA
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BACKGROUND: HIV has been transformed from a death sentence to a chronic illness due to the advancement of antiretroviral treatment. Nevertheless, in Botswana, older adults living with HIV remain profoundly marginalised. According to the Botswana AIDS Impact Survey, the percentage of older people living with HIV has risen over time. This study aimed to examine how older people cope with living with HIV in Botswana.

METHODS: This was a qualitative study in which 50 in-depth semi-structured face-to-face interviews were conducted with adults aged 50 years and above living with HIV. Recruitment was through healthcare facilities. Questions focused on socio-demographic characteristics as well as information on HIV diagnosis and probable acquisition, transmission, relationships, aging and co-morbidities. Thematic content analysis was used in the analysis, interpretation, and validation of the qualitative data.

RESULTS: Most interviewees regarded themselves as long-time survivors who now struggle with both the challenges of aging with HIV as well as institutionalized ageism, stigma and social isolation. Other interviewees stated that they were newly infected and bemoaned the lack of prevention campaigns aimed at older people. Stigma and discrimination related to HIV and aging, the challenge of co-morbidities, and a general lack of age-appropriate service provision and support from practitioners across various fields hinders access to care. Interviewees stated that most health providers mistakenly assume that older people are not sexually active.

CONCLUSIONS: HIV presents a formidable challenge in Botswana, as older people living with HIV must confront issues relating to not only their health but also issues of morality and sexual expression. Even though Botswana’s management seem to recognize HIV as a public health challenge, it’s focused intervention seem to put greater emphasis on HIV in the context of a sexual transmitted infection rather than a chronic lifelong infection hence the need to increase the visibility and policy priority of aging and HIV in Botswana to ensure the right of managing HIV versus treatment effects versus aging versus concurrent disease.

RESEARCH ON OLDER ADULTS WITH HIV IN UGANDA RESEARCH ON OLDER ADULTS WITH HIV IN UGANDA: A FEASIBILITY STUDY OF A SURVEY TOOL
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BACKGROUND: HIV is having an impact on those aged 50 years and older. In sub-Saharan Africa, there are over 3 million older PLHIV representing more than 13% of the region’s PLHIV. Emerging evidence has suggested that even in resource-limited settings, almost normal life expectancy, including that of older people can be expected once on ART.

The study sought to examine social support, sexual behaviour and overall health status among older PLHIV in Uganda and determine their unmet social and service needs in order to improve their quality of life and access to healthcare.

METHODS: Both quantitative and qualitative data collection methods were used with 101 older PLHIV being interviewed on issues around their health, social behavior and well-being. The quantitative component was conducted through face-to-face one-on-one interviews. The survey included selected items from standardised and validated measures to allow for comparison to other extant research. Eleven in-depth interviews were conducted at the rural site and four at the peri-urban site. A framework involving developing a thematic structure for interpretation was used for the qualitative analysis.

RESULTS: Levels of emotional support were seen as adequate by the majority of respondents but instrumental support, including financial support, help around the...
TUPED307

"WELL THEY JUST GAVE UP": OTHERING AS PART OF THE SURVIVAL EXPERIENCE OF OLDER MEN WITH HIV IN NEW YORK CITY

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Background: At present, half of those living with HIV in New York City are over 50 and many of these individuals are long-term survivors, reflecting the transformation of HIV from a life-threatening illness to a chronic disease. However, the distinctive lived experiences of older long-term survivors with HIV/AIDS have gone relatively understudied. While the use of moral narratives as a form of differentiation and internalized stigma have just begun to be explored among this population, one aspect that has yet to be studied is the use of othering. This paper fills this gap.

Methods: Twenty in-depth open-ended interviews were conducted with older (ages 50 to 76) men who were long-term survivors of HIV/AIDS (time since diagnosis, years 15 to 30). The sample is predominantly Black/African American (70% Black/African American, 15% Hispanic Latino, 10% Bi-racial/Other, 5% White), gay (65% gay, 20% bisexual, 15% heterosexual), unemployed (80% unemployed) and educated (40% completed some or all college and 50% completed high school or GED program). Participants were recruited via posted fliers at a food and nutritional program for people living with HIV/AIDS in New York City. Interviews elicited participants lived and survival experience. Interviews were transcribed verbatim, and coded using ATLAS.ti, guided by the principles of Colaizzi’s (1978) descriptive phenomenological method.

Results: All participants described how HIV/AIDS had led to multiple losses in their lives, this was particularly pronounced in those who identified as gay. Participants described losses through stigma, for example abandonment by friends and families. Moreover, the participants reported that othering those described losses through stigma, for example abandonment by friends and families lives, this was particularly pronounced in those who identified as gay. Participants

Conclusions: Findings highlight the importance of othering as part of the survival process among long-term male survivors with HIV/AIDS.

TUPED308

TELLING IT LIKE IT IS: THE MULTIPLE LOSS JOURNEY WITH A SPANISH SOUL

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Background: There are an increasing number of PHAs who have immigrated to Toronto from Latin-American countries. In addition to the stigma of being associated with marginalized communities and living with HIV, these individuals often come with stories of war-related violence. Latinos PositivosToronto (LPT) requested support for creating a culturally-relevant dialogue tool to assist members of this community in talking about their complex multiple loss histories. Spanish interpreters from LPT reached out to the AIDS Bereavement and Resiliency Project of Ontario (ABRPO) who had developed a program on Multiple Loss and Community Devastation: Survive to Thrive.

Methods: As part of Survive to Thrive, ABRPO created a "Multiple Loss Journey" (MLJ) program. This tool supported community awareness and dialogue related to the issues and task associated with accommodating the challenges of ongoing loss. Through a community needs assessment, the members of LPT decided that the direct translation of this MLJ was insufficient. As a result, ABRPO sat for 3 days with 15 members of LPT from 5 Latin American countries, to adapt it to a Spanish version of the MLJ. Each concept on the map was carefully deconstructed and elaborated upon to identify Spanish concepts and words appropriate to this ethnic community. ABRPO supported LPT by producing a colourful 6 foot wall map of this Spanish "Sendero de Pérdidas Multíples."

Results: Direct translations of AIDS-related materials and tools are not culturally appropriate for non-English speaking PHAs. By developing a partnership between experts and community, a stronger tool was developed that will not only be highly relevant for Spanish-speaking multiple loss survivors, but will be a significant resource for ABRPO.

Conclusions: With this dialogue tool in place, Latinos Positivos Toronto is better able to partner with ABRPO to train a core-group of PHAs to deliver a Spanish version of the "Survive to Thrive" program that accompanies this Multiple Loss Journey.

PREVENTION INTERVENTIONS AND THEIR EFFECTS ON THE LIVES AND RELATIONSHIPS OF PEOPLE LIVING WITH HIV

TUPED309

GENDER INEQUALITIES INFLUENCE HIV-SEROSTATUS DISCLOSURE: QUALITATIVE STUDY AMONG HIV-POSITIVE WOMEN AND MEN REPORTING SERODISCORDANT PARTNERSHIPS IN DURBAN, SOUTH AFRICA

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Background: This qualitative study investigated the dynamics of HIV-serostatus disclosure with a focus on gender inequalities among HIV-positive men and women reporting serodiscordant partnerships in Durban, South Africa. HIV-serodiscordance contributes to high HIV incidence in southern Africa, yet disclosure rates remain low among men and women in serodiscordant partnerships. Gender power inequality within relationships can increase HIV infection risks for women, requiring greater attention towards addressing gender relations and HIV disclosure.

Methods: Thirty-five in-depth interviews were conducted with 15 HIV-infected men and 20 HIV-infected women (not couples) reporting uninfected or unknown-serostatus partners and enrolled in HIV care, from four public sector clinics near Durban, as part of a study exploring participant experiences with safer conception counseling. Themes were identified using a structured coding scheme, permitting investigation of men’s and women’s attitudes and behaviors toward HIV-serostatus disclosure, and the process and experience of sharing (or not sharing) HIV-serostatus with a partner. Promoters and barriers of HIV-serostatus disclosure emerged as important themes affecting perception HIV-risk behavior. Data analysis explored narratives of HIV-serostatus disclosure through the lens of gender inequality, focusing on reasons for non-disclosure and links to sociocultural gender dynamics.

Results: Socio-demographic characteristics were: median age 33 years (men) and 30 years (women); average time since HIV-diagnosis 1 year (men) and 1.5 years (women). Four major themes related to gender inequality emerged:

1. Men and women fear disclosing HIV-serostatus to partners due to concerns about stigma and relationship dissolution,
2. Suspicions and mistrust underlie lack of disclosure,
3. Unequal gender dynamics in relationships influence women’s disclosure patterns, and result in differential uptake of disclosure among men and women, and
4. Partial or incomplete disclosure is a strategy to navigate disclosure challenges. Findings illustrate HIV-serostatus disclosure as a complex process evolving over time, sometimes many years, rather than a one-time event.

Conclusions: HIV-serostatus disclosure is a critical component of effective HIV prevention. Yet, partner communication about HIV-serostatus is infrequent and complicated, with gender inequalities contributing to fear, mistrust and partial or implicit disclosure. Relationship and gender dynamics powerfully impact HIV-serostatus disclosure. Interventions to reduce barriers to effective communication and trust for HIV-serodiscordant couples are needed.
TUPE3D10
#UNDETECTABLE: HIV-POSITIVE. NOT INFECTIOUS
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Background: People living with HIV stop being infectious if they have been taking effective ART for a certain period. This fact has been widely known since the statement made by the Federal Commission for Aids issues (EKAF) in 2008. As the “Swiss Statement” it was eagerly discussed at the International Aids Conference in Mexico. Despite this, time and again the debate becomes heated when it is proposed that this message should be incorporated into prevention campaigns. With the #Undetectable-campaign, the Swiss AIDS Federation, in cooperation with and funded by the Federal Office of Public Health, implements its message into the prevention system of the MSM-population.

Methods: The message spread by the campaign reads as follows: “For you as someone with HIV and your partners #Undetectable means, that if your viral load has remained below the detectable threshold for at least six months, you take your ART regularly and your doctor also monitors your viral load regularly, you are no longer infectious. #Undetectable is a safer sex strategy and is as safe as using a condom. You no longer have to disclose your HIV status if you do not want to. This is an important step toward reducing stigma and discrimination.

Results: Eight years ago the #Undetectable campaign is still causing concerns and bringing up heated discussions among physicians, prevention workers but also PLHWA. By providing training, information and face-to-face discussions, there is a good chance for finally acquiring this shift within the prevention message.

Conclusions: #Undetectable is one of two big campaigns 2016 targeting the key populations of MSM in Switzerland. Ads and informations in print, on social media sites (Facebook, Twitter, Gayromes, Grindr) and on our website draych.ch have been published. Peer-to-peer-education, public appearances (at prides, gay venues etc) and lobbying activities targeting the medical system will follow.

TUPE3D11
STRENGTHENED SEXUAL RELATIONSHIPS THROUGH PREP USE BY SERODISCORDANT COUPLES MAY STIMULATE DEMAND FOR PREP IN SUB-SAHARAN AFRICA: QUALITATIVE RESEARCH FROM THE PARTNERS DEMONSTRATION PROJECT
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Background: Plans for rollout of antiretrovirals as pre-exposure prophylaxis (PrEP) are now underway in some sub-Saharan African countries. Demand from populations which stand to benefit from PrEP can fuel the roll-out process. As many as half of new HIV infections in Africa take place in serodiscordant couples. Understanding couples’ experiences of PrEP use can help in developing messages and generating demand for PrEP by HIV serodiscordant couples. Using qualitative data from the Partners Demonstration Project in Kampala, Uganda, we describe serodiscordant couples’ experiences of PrEP use.

Methods: We conducted in-depth interviews with 48 serodiscordant couples taking part in the Partners Demonstration Project. Interview topics included: the story of HIV testing and joining the #Undetectable campaign, sexual behavior before and while using PrEP, adherence to PrEP, feelings about PrEP, fertility intentions, and experiences of discontinuing PrEP. Interviews were inductively analyzed to identify themes reflecting couples’ experiences of and responses to PrEP use.

Results: Learning about HIV serodiscordance creates fear of HIV transmission in couples, who respond by taking steps to manage infection risk: using condoms, reducing sexual frequency and/or abstaining from sexual relations altogether. These steps make couples feel safer, but also negatively impact their sexual relationship, eroding the quality of sex and interfering with plans to have children. Intimacy and emotional ties between partners are weakened as a result. PrEP is experienced by couples as “added protection” against HIV transmission, creating a safer environment in which to fulfill sexual relationship and reproductive goals. This sense of added protection further reduces fear and offsets damage to sexual relationships caused by other prevention methods.

Conclusions: PrEP reduces HIV risk in serodiscordant couples without undermining sexual intimacy and childbearing plans. PrEP’s capacity to prevent HIV transmission without threatening couple’s sexual relationships has the potential to meet needs and stimulate demand for PrEP by serodiscordant couples in sub-Saharan Africa.

TUPE3D12
REACHING AT HARD-TO-REACH POPULATION: AN EFFECTIVE MOBILIZATION OF KEY POPULATION IN NEPAL
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Background: PLHIV mortality rate to some extent declined with the availability of ART services in Nepal. However, the delay in early diagnosis of Tuberculosis among PLHIV have dramatically contributed to shortening the pre-ART stage on PLHIV and increase of TB associated death among PLHIV. The HIV prevalence among TB patients is studied, but TB prevalence among PLHIV is still unknown due to rare PLHIV focused TB intervention.

Description: Naya Goreto in support of United Nation Office for Project Support (UNOPS) conducted 18 months intensified TB case finding among PLHIV in 10 high HIV prevalence districts of Nepal. Ex-PLHIV/TB co-infected patients were mobilized in project sites for early TB screening, testing and treatment of hard to reach population especially PLHIV, drug users, sex workers and migrant workers. We reached among #110 (aged 15-64) for early TB diagnosis during the project period including the family members of index cases (TBHIV co-infected). Both active case finding and contact tracing approaches were used primarily, mobilizing PLHIV volunteers with mobile technology to reach hard-to-reach population.

Lessons learned: Despite a massive earthquake, project volunteers screened 8110 and found 287 TB cases in hard to reach population; and able to develop a link with key population with health facilities for easy access to TB care and support. The mobilization of key population as volunteer is the key reason for extremely satisfied results in short project span. The existing data shows that the present TB prevalence among PLHIV in Nepal is around 4.74.

Conclusions/Next step: The expansion of PLHIV and other vulnerable groups focused TB program has had a large and pervasive effect on PLHIV mortality. Improvement in intervention strategies mainly peer groups mobilisation has contributed in early diagnosis of TB among hard to reach population. Only the early TB screening among PLHIV often attributed to timely TB treatment, reducing TB associated death and prolonging pre-ART stage on PLHIV. Therefore, this project has not only provided a baseline data for further operation research; but also forwarded a new approach of meaningful involvement of the key populations in TB Programme of Nepal Government.

SEXUAL AND REPRODUCTIVE HEALTH, FERTILITY, FAMILY PLANNING AND ABORTION

TUPE3D13
UPSCALING SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS (SRHR) AMONG YOUNG PEOPLE AND ADOLESCENTS
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Background: Since the global community is making progress towards 90 90 90 fast track targets by 2020, there is a challenge of ensuring that young people and adolescents receive SRHR quality knowledge and services. In developing countries including rural Zimbabwe, young people and adolescents generally lack sufficient SRHR knowledge and access to services. Restless Development Zimbabwe through the ICS programme in rural areas continues to work on upsaling access to quality SRHR services as well as improved knowledge. The main objectives of the programme were to examine the upsaling of SRHR among young people and adolescents, to increase awareness of SRHR services and information and removing barriers which institutionalise SRHR in order to scale services and ensure full access.

Methods: The ICS programme was implemented by both Team Leaders and volunteers who were recruited in the ICS Programme with the help of Restless Development management. This programme was conducted with 20 000 key populations
which comprised of young people and adolescents who received SRHR knowledge and access services between August 2015 to November 2015 in rural Zimbabwe Bullima District. Well planned SRHR and HIV/AIDS education interventions were implemented. A rights based approach was adopted as it specifically centred on the health and well being of young people and adolescents. The programme also conducted full stakeholders’ involvement of community leaders and other stakeholders working towards the same scope of Restless Development.

Results: SRHR education interventions have been found to increase knowledge as well as develop life skills in order to change risky behaviours. Of the 20,000 key populations, 90% reported beneficial change and also reported to have both received SRHR knowledge and services in clinics and schools whilst the remaining 10% received SRHR services and quality information. Full stakeholders’ involvement was also active through participation of community leadership in caucus meetings and campaigns.

Conclusions: Upscaling of SRHR results in high behaviour change communications, it also lessens levels of teenage pregnancy as well as reducing HIV infections and deaths among young people and adolescents. Great improvements have been achieved although vast efforts are still needed such that 2020 Fast Track Targets are met.

TUPED314

CHILDBEARING INTENTIONS AND FAMILY PLANNING UPTAKE IN HIV- WOMEN ON ANTIRETROVIRAL THERAPY (ART) IN THE POSTPARTUM PERIOD

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Background: There are growing concerns about the childbearing intentions and family planning (FP) needs of women on ART, yet little is known about these issues in HIV+ women during the postpartum period. We examined childbearing intentions and FP uptake among HIV+ women during the first year postpartum in Cape Town, South Africa.

Methods: We followed 471 women on ART from delivery through 12 months postpartum between June 2013-June 2015. In up to 5 interviews conducted separately from routine health services, women reported on FP use and childbearing intentions; the latter was recorded using a 4-point scale measuring perceived future desires, categorised as (i) unsure, (ii) definitely do not want to become pregnant in the future, (iii) may want to become pregnant in the future, (iv) definitely do want to become pregnant in the next 12 months.

Results: In this population (median age, 29; 42% married/cohabiting), childbearing intentions remained stable throughout the postpartum period: across visits, 90-92% of women were unsure or definitely did not want to become pregnant in the future. (Figure 1). Desire to become pregnant in the next 12 months was reported in ≤ 2% of women consistently over time. In contrast, the proportion of women not using FP increased, from 4% to 17% by 12 months postpartum; these increases were driven by discontinuation of injectables and failure to initiate other methods. Of the women that wanted to become pregnant, 15.5% would adopt traditional methods, 12.0% would change method while about 4.0% don’t know what to do. Factors influencing continuation of chosen method were lack of contraception options, restrictions in choice, high cost of contraceptives, not being informed about contraceptive methods, fear of side effects, and fear of HIV transmission from partners.

Conclusions: Non-use of FP increases over the postpartum period among HIV+ women. Discontinuation of injectables contributes to non-use. While further research into the determinants of childbearing intentions and FP use are needed in this population, long-acting methods suitable for women using ART, such as the IUD require ongoing programmatic support.

TUPED315

CONTRACEPTIVE USE AMONG WOMEN LIVING WITH HIV AND AIDS RECEIVING CARE AT SECONDARY AND TERTIARY HEALTH FACILITIES IN IBADAN NIGERIA

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Background: Contraceptive use is a form of family planning and it is one practice among the most important health decisions that many people including women living with HIV and AIDS. Inadequate information on available contraceptive methods and restriction of choices are major constraints for contraceptive users to obtain a method that suits their unmet need. Hence, this study was designed to assess the contraceptives use among HIV positive women receiving care at secondary and tertiary health facilities in Ibadan. Nigeria

Methods: A cross-sectional study using systematic random sampling technique was conducted to select 350 consenting women among HIV positive women receiving care in two health facilities in Ibadan. A pre-tested interviewer-administered questionnaire which contained respondents’ socio-demographic characteristics, unmet need of contraceptive use, family planning method used and their effectiveness, experience and level of satisfaction of modern contraceptive use was adopted.

Results: Age of the respondents was 37±9.5, 87.0% were married and 68.0% were in monogamous marriage. Respondents with Junior and Senior Secondary School certificates were 41.1% and 34.3% respectively. Analysis by unmet need revealed that about 97.0% of the women had had at least one birth, 46.0% of the women had 4-6 previous pregnancies, 44.0% had 1-3 pregnancies while 7% had more than 6 previous pregnancies. Current method of contraception was influenced by joint agreement with their spouses (33.0%). Condom was the commonest choice (54.8%) followed by Oral pills (20.1%) while Injectable (16.1%) IUCD (10.5%) and Implants (9.5%) were the least common choices respectively. Of the women that encountered problems, 54.0% indicated that they would seek solution from providers, 15.0% would adopt traditional methods, 12.0% would change method while about 4.0% don’t know what to do. Factors influencing continuation of chosen method included (39.7%), availability (24.1), Affordability (14.1%) and effectiveness (13.1%). A major reason for being satisfied with chosen method was adequate information before choice (94.5%).

Conclusions: High level of education and previous use of contraceptives supported by spouses are factors influencing modern contraceptive choices. Family planning programme should be incorporated as a component part of care for women living with HIV and AIDS.

TUPED316

A COMPARISON OF SEXUAL BEHAVIOR AMONG OLDER ADULTS WITH HIV FROM SOUTH AFRICA AND UGANDA: FINDINGS FROM THE RESEARCH ON THE OLDER ADULTS WITH HIV (ROAH) AFRICA PROJECT

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Background: As antiretrovirals become more widely available in sub-Saharan Africa, the population of adults 50 and older with HIV will continue to grow and is currently estimated at over 3,000,000. We know little about this burgeoning group, including levels of sexual activity and risk behaviors that could inform HIV prevention efforts. Such data are needed as research finds adults remain sexually active into old age, providing a vector for HIV and other STI transmission.

Methods: Data were obtained from ROAH Africa sites in Uganda (UG) and South Africa (SA) on adults 50 and older with HIV from 2013 to 2015. In UG (N = 101), 58% were women and the average age was 61 years. In SA (N = 108), 72% were women.
and the average age was 58 years. Questions on sexual activity were adapted from the National Social Life, Sexual Activity and Aging Project [23], and significant differences were examined using Fisher’s Exact Tests.

Results: SA older adults were significantly more likely to report sexual activity in the past year (51%) compared to UG (31%), and men were the most active in both countries. SA older adults were more likely to report becoming HIV-infected from a spouse (57%) vs. a casual partner (33%), but in UG these vectors were nearly equivalent (43% and 41%, respectively). HIV disclosure between partners in UG was significantly greater compared with SA (ranges 93%-96% and 70%-80%, respectively), and greater in UG compared with extant research on younger samples. However, SA older adults were significantly more likely to report condom use usually/always with spouses and casual partners (92% and 93%, respectively) compared to UG (33% and 50%, respectively).

Conclusions: Older adults with HIV in both UG and SA remain sexually active, under-scoring the need for secondary HIV prevention efforts directed at the older popula-tion. Data on differences in condom use suggest such efforts could be successful in regions where condom uptake could be improved. Differences between SA and UG older adults in sexual activity suggest that cultural and social influences preclude making broad generalizations about older adults with HIV on the African continent.

TUPE317

MISSED OPPORTUNITIES FOR SEXUAL AND REPRODUCTIVE HEALTH COUNSELING FOLLOWING HIV DIAGNOSIS IN KWAZULU-NATAL, SOUTH AFRICA

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Background: Post-diagnosis counseling presents a key opportunity for providers to help newly-diagnosed HIV+ individuals adjust to their diagnosis and promote their health and well-being. Integrating sexual and reproductive health information into HIV-related counseling sessions is recommended in South Africa’s national guide-lines, but few have examined whether such messages are included, or how they are received.

Methods: We conducted serial semi-structured interviews over an eight-month period from 2011-2012 with a targeted subsample of 13 women and 3 men from Pathways to Care, a prospective cohort study of newly-diagnosed HIV+ adults recruited from three public primary care clinics in KwaZulu-Natal. At each interview, participants were asked what counseling messages they had received about leading a healthy lifestyle, sexual behavior, contraception, safe conception, and pregnancy termination options. Audio-recorded interviews were translated, transcribed, and analyzed thematically in NVivo 10.0.

Results: All participants reported receiving sexual risk reduction messaging at some point during post-diagnosis counseling. Dominant counseling messages included discouraging concurrent sexual partnerships, and encouraging consistent condom use and having less sex overall. However, some participants misunderstood or were misinformed about reasons for condom use; a minority believed that engaging in condomless intercourse could directly lower their CD4+ count or increase viral load. Half of the participants had not received any counseling regarding family planning options beyond condoms, or about safe conception options if they desired children in the future. Two participants reported receiving counseling regarding how to terminate an unwanted pregnancy.

Conclusions: Sexual and reproductive health counseling appeared to be incomplete and inconsistent in our sample of newly-diagnosed HIV+ men and women. This indicates a missed opportunity to enhance the quality of life for persons living with HIV, and underscores the need to allocate additional resources so that HIV counselor-s are sufficiently trained and supported to provide basic sexual and reproductive health information and relevant referrals to their clients.

TUPE319

PUBLIC INTEREST LITIGATION TO CHALLENGE THE FORCED AND/OR COERCED STERILIZATION OF WOMEN LIVING WITH HIV

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Background: In many African contexts, motherhood informs social constructions of womanhood and femininity. Forced and/or coerced sterilization of women living with HIV (WLVH) robs women their right to choose to have children. Sterilized
women face extreme stigma, gender-based violence, abuse from their communities, and a loss of their status as "whole" women. International bodies have convened to strategize on the relationship between such human rights abuses and the key legal questions pertaining to the global AIDS response. In this vein, UNDP coordinated a strategy meeting in 2015 to discuss the findings of the Global Commission on HIV and the Law's regarding young women and adolescent girls. Contributing to the advancement of these recommendations, the Kenya Legal and Ethical Issues Network on HIV & AIDS (KELIN) is engaged in facilitating access to justice through the legal representation of women who have been forced or coerced into sterilization.

Description: With a view toward the full enjoyment of health-related rights, KELIN provides legal services and influences policy that promotes evidence-based change. Through public interest litigation, KELIN advocates for the enjoyment of health on a more far-reaching scale than with individual cases. With the support of partners, KELIN is challenging the sterilization of women living with HIV - representative of a larger cohort of victims - in two currently ongoing court cases initiated in 2014.

Lessons learned: Women's narratives have revealed that illegimate consent and a lack of awareness of rights are at the core of sterilization, revealing a discrepancy between laws/policies and actual practices. Other lessons include the important impact of community-led documentation and sensitization, alliance building, and lobbying at a high-level, policy level.

Conclusions/Next steps: Education and empowerment on reproductive health rights will be instrumental in tackling misinformation by healthcare providers. Key next steps include continuous training of WLHIV, their families, and healthcare providers. The public interest litigation itself has the potential to set a legal precedent in Kenya and hold the government accountable in the long term.

TUPE320 UNDERSTANDING CONTRACEPTIVE USE AND PRACTICES AMONG FEMALE SEX WORKERS LIVING WITH HIV IN THE DOMINICAN REPUBLIC

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Background: Female sex workers (FSW) living with HIV are at increased risk for unintended pregnancy, abortion, pregnancy complications and other negative health outcomes, yet little is known about the contraceptive practices of this population.

Methods: Data was analyzed on 268 current FSW living with HIV in the Dominican Republic. Descriptive analysis was conducted to understand varied methods of contraceptive use and practices in this population.

Results: About 95% of participants reported at least one pregnancy (mean: 4.2; range: About 80% (216/268) of participants reported using at least one form of contraceptive method (barrier or non-barrier) in the last 6 months. Consistent condom use was about 73% (197/268) on average with all clients, however condoms are used more consistently with new (190/214; 88.79%) and regular clients (217/248; 87.50%) as compared to steady partners (152/228; 66.67%). For those using non- barrier contraceptive methods, most (134/267; 50%) reported a permanent procedure with the high majority reporting a tubal ligation (47.39%) as compared to hysterectomy (3.73%). The average age of the permanent contraceptive procedure was 28 with a broad age range (15 to 45 years). Just under a third (36/127; 28.34%) of participants reported having the procedure within 3 years of their HIV diagnosis. About a third or participants who have had a permanent procedure reported that they would like more children. Of those who reported not using any method to prevent pregnancy (barrier or non-barrier) in the last 6 months (18.90%), about 66% of those participants also indicated not wanting more children.

Conclusions: The results of this analysis highlights the importance of further research on contraceptive use and FSW living with HIV. For a population facing barriers to care and at high risk for unintended pregnancy, STI, and transmission of HIV, integrated care and a better understanding of both HIV and reproductive health needs is important. Further research is needed to understand dynamics surrounding contraceptive decision-making and health provider communication surrounding family planning and pregnancy.

TUPE321 FACTORS ASSOCIATED WITH THE DESIRE FOR FUTURE CHILDREN AMONG HIV-POSITIVE WOMEN AND MEN IN MALAWI

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Abstract: This study aimed to explore factors that influence the desire for future children among HIV-positive women and men in Malawi. We conducted a cross-sectional survey among 308 female and 250 male participants from HIV clinics in Lilongwe, Malawi between September and December 2013. Our primary outcome was the desire to have children in the future. We used descriptive statistics to describe contraceptive pattern use and Poisson regression to estimate adjusted prevalence ratios (aPRs) for factors associated with the desire to have children in the future.

Results: Among 308 female and 250 male participants, most received antiretroviral therapy, which were in long-term relationships, and had at least one living child. One-third of participants desired future pregnancy. Approximately 80% of participants who did not want children in the future reported using contraception at last intercourse; the most frequently used methods were depot medroxyprogesterone acetate (28.2% of women; 17.8% of men) and condoms (19.8% of women; 43.9% of men).

Conclusions: Among 308 female and 250 male participants, most received antiretroviral therapy, which were in long-term relationships, and had at least one living child. One-third of participants desired future pregnancy. Approximately 80% of participants who did not want children in the future reported using contraception at last intercourse; the most frequently used methods were depot medroxyprogesterone acetate (28.2% of women; 17.8% of men) and condoms (19.8% of women; 43.9% of men).

TUPE322 PROCESSES OF RESILIENCE AMONG PEOPLE LIVING WITH HIV/AIDS SEEKING VOCATIONAL REHABILITATION: A QUALITATIVE APPROACH

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Background: Vocational rehabilitation among people living with HIV/AIDS (PLWHA) remains an understudied subject. While research has shown that stressors related to unemployment negatively affect the quality of life of PLWHA, little has been done to understand and explain the nuances of this relationship. Although resilience has become a fixture in the field of HIV/AIDS in the past decade, its role tends to be limited to that of a protective psychological factor and/or as a buffer to traumatic experiences. This exploratory qualitative study sought to reframe resilience as a series of processes that could facilitate prosocial behaviors toward vocational rehabilitation, in particular among long-term HIV/AIDS survivors.

Methods: Our data was collected between 2011 and 2012 in San Francisco, CA. These data originated from a cohort of 108 PLWHA who had recently accessed vocational rehabilitation services. We purposively sampled 22 participants based on time since HIV diagnosis and self-reported social standing. We employed a grounded theory approach to develop themes relevant to the study and utilized ATLAS.ti to analyze transcripts of semi-structured qualitative interviews.

HIV AND THE WORKPLACE: DISCRIMINATION, UNEMPLOYMENT, RETURN TO WORK AND REHABILITATION

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Results: Our sample’s mean age is 43 (SD = 9.9), 55% are Caucasian and 68% are male. The data revealed eight major domains that exemplified processes related to resilience within this sample. When stratifying by age, the data showed thematic differences between participants over 40, and those under. Among those over 40, the data elucidated engagement in processes of resilience geared toward Renegotiating Identities and Reframing Negative Events. While those under 40 were more likely to endorse processes around Accessing Networks and Managing Resources. The resilient behaviors for participants over 40 seem to be cemented in manifestations of cultural capital, whereas their counterparts under 40 were more adept to invoke social capital and as a means to resilience. Both groups made reference to Goal Setting behaviors, which seems to have facilitated engagement in vocational rehabilitation.

Conclusions: These data underscore important issues related to identity formation, social networks and other markers of resilience relevant to the vocational rehabilitation efforts of PLHIV. Moreover, harnessing these features through a strengths-based framework could prove imperative to health-related efforts for this population.

LIVING WITH HIV AND CO-INFECTIONS AND/OR CO-MORBIMITIES

TUPED323
IDENTIFYING TB-HIV CO-INFECTION: A COMMUNITY-LED MODEL FOR TUBERCULOSIS SCREENING AMONG PLHIV: EXPERIENCE FROM THE VIHAAN PROGRAMME IN INDIA

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Background: The estimated number of people living with HIV in India is 2.1 million (NACO), of which 95,000 are co-infected with tuberculosis (TB). There is a huge coordination gap between the national HIV and TB programmes, and high mortality among those cases with HIV-TB co-infection. Chances of latent TB developing during TB are high among PLHIV in India. The Global Fund-supported Vihaan programme, implemented by India HIV/AIDS Alliance and partners, puts special emphasis on HIV-TB integration and care and support for the co-infected.

Description: Vihaan promotes treatment adherence as one of the major objectives of the 350 Care & Support Centres (CSCs) across India. 80% of CSCs are implemented by District Level Networks of PLHIV. Intensive Care Finding (ICF) of PLHIV also living with TB is an essential activity carried out by the CSCs, which is done following an assessment protocol. ICF is based on four major symptoms: cough for any duration, weight loss, fever and presence of night sweats. PLHIV found to have any of one of the common symptoms are referred to TB testing centres. Clients diagnosed with TB are then linked with TB treatment facilities. 55,582 PLHIV were screened for TB, of which 9,499 were referred for testing. Of them, 762 PLHIV were diagnosed with TB within the initial three-month period of ICF in 2015.

Lessons learned: Community-led model for screening TB through the use of ICF has resulted in an increase in the early diagnosis of co-infection, which seems to have facilitated engagement in vocational rehabilitation among IDUs and has been convenient and easy-to-use for outreach workers, and enables identification of patients needing additional interventions.

Conclusions: The resilient behaviors for participants over 40 seem to be cemented in manifesta-

TUPED324
EFFECTIVENESS OF SMOKING CESSATION PROGRAM FOR PRISONERS LIVE WITH HIV/AIDS

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Background: Cigarette smoking is a global public health problem. The prevalence of cigarette smoking is higher in HIV positive patients as compared to the general population. Moreover, smoking prevalence is high in prisoners. HIV-positive patients who smoke, have significantly increased mortality and morbidity compared to those who have never smoked. In this regard, we evaluated effectiveness of smoking cessation program for prisoners live with HIV/AIDS.

Methods: The study was designed as a double-blind, randomized, controlled clinical trial, and it began in February 2014 and ended in February 2015. 36 prisoners met the inclusion criteria and were enrolled in the study. They were divided randomly into three groups, i.e., MI-based treatment, MI with NRT, and the control group, which didn’t receive any therapy. The outcome measures were reported after intervention and at a 90-day follow-up, and changes in the CO levels in expired air and nicotine dependency were measured.

Results: The average age of the subjects was 32.9 ± 4.76, and their mean duration of imprisonment was 4.3 ± 3.90 years. They smoked an average of 21.84 ± 8.72 cigarettes per day. Analysis of the concentration of CO in expired air in the pre-test, post-test, and at the follow-up for the three groups showed that the variations in the mean CO concentrations in the MI group and the MI with NRT group at the pre-test and at the post-test were statistically significant (p < 0.001), but no significant changes occurred between the post-test and the follow-up (p > 0.05). In addition, the results indicated that CO concentration in expired air in the MI with NRT group was statistically significant, with better efficacy of smoking cessation, compared with control group and the MI group after the follow-up (p = 0.02).

Conclusions: Smoking cessation may be more difficult for people living with HIV because they are often also coping with mental health and substance use issues. As a result, less intensive interventions such as giving advice may not be enough. Some may benefit from more intensive interventions such as repeated counselling, nicotine replacement and psychiatric assistance.

CONCEPTUALIZING SOCIAL AND STRUCTURAL FACTORS AND THEIR IMPACTS

TUPED325
SOCIO-CULTURAL FACTORS INFLUENCING ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG HIV PATIENTS IN A UNIVERSITY TEACHING HOSPITAL IN SOUTH-WEST NIGERIA

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Background: The objectives are to examine the perception of people living with HIV/AIDS of antiretroviral therapy in the study area, investigate the influence of socio-cultural factors on adherence to treatment regimen in the study area and assess the prevalence of adherence to ART among PLHIV in the study area.

Methods: A cross-sectional study design where both qualitative and quantitative research methods were adopted. Participants were HIV diagnosed patients attending clinic at the Hospitals Complex in Ile-Ife between the ages of 18 to 60 years. Three healthcare delivery personnel working in the clinic were interviewed. Using Fischer’s formula 336 patients living with HIV were selected for the study. Participants had been on antiretroviral drugs for more than six months prior to the study. Two focus group discussion sessions comprising of 10 male and 10 female living with HIV and currently on ART were conducted. These groups were purposively selected based on their being on ART for more than one year. In-depth interviews were conducted among three purposively selected healthcare givers (an experienced nurse, a doctor and a pharmacist) working in this clinic. Data were collected using a structured questionnaire, an interview guide and tape-recorder. Quantitative data were analysed with descriptive and inferential statistics. Content analysis was used to analyse responses from IDI and FGD.

Results: The study revealed positive perception to ART among PLHIV of about 86.3%, the level of adherence to ART was 89.0%. A strong relationship exists between social and family supports and the degree of adherence to ART. Nutrition, polygamy, difficulty in financing transportation fare to the clinic, unemployment, drug hawking, religion, excuse duty from work and waking up very early were highlighted as barriers to adherence to ART. Fear of death, strong family support, religion belief, not seeking alternative treatment, absence of rituals and perceived improved health status were noted as facilitators to adherence.

Conclusions: It was concluded that to achieve optimal outcome in the management of HIV various social and cultural contexts should be taken into consideration. This study was able to ascertain the influence of these various factors militating and facilitating adherence to ART.
Tuesday 19 July
Poster Exhibition

Wednesday 20 July

TUPE326
CONCEPTUALIZING “TRANSACTIONAL SEX” IN SUB-SAHARAN AFRICA: A REVIEW AND SYNTHESIS OF THE LITERATURE
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Background: In sub-Saharan Africa, young women ages 15 - 24 have more than twice the risk of acquiring HIV as their male counterparts. A growing body of epidemiological evidence suggests that the practice of ‘transactional sex’ may contribute to this disparity. Over the last 15 years, the social sciences have contributed significantly to the understanding of the meaning and motivations for this practice. The findings from these studies are rich, but present conflicting narratives, rendering lessons difficult to navigate for intervention and further research.

Methods: We contribute a historically-grounded, comprehensive literature review on the nature and motivations for women’s participation in transactional sex in sub-Saharan Africa. Using systematic review approaches, we found 310 studies that fit our search criteria. We identified 11 themes in a data extraction matrix that we used to code articles in qualitative research software (Atlas/it 7). We then further distilled three dominant paradigms on transactional sex that we review toward presenting a unified consideration of the practice...

Results: The first paradigm “the vulnerable victim who practices sex for basic needs” positions women as victims in transactional sexual relationships, with implications for interventions that protect girls from exploitation. In direct contrast, the “sex for upward mobility” paradigm positions women as sexual agents who engage in transactional sex toward attaining a middle-class status and lifestyle. Finally, a third paradigm “sex for material expressions of love,” draws attention to the intimacy of love and money, and the central role of men as providers in relationships. We find important commonalities in the structural factors that shape the three paradigms on transactional sex including gender inequality and processes of economic change. We suggest that there are three continua stretching across these paradigms: those of emotionality, agency and deprivation.

Conclusions: This review holds implications for research and interventions, and can serve as a basis for improved efforts to identify pathways through which transactional sex increases young women’s risk of HIV. We discuss the consequences of drawing from too narrow an understanding of the practice, and the need to acknowledge continuums of agency and emotionality in intervention approaches.

TUPE327
MASCULINITY, INTERNALIZED HETEROSEXISM, AND OTHER PSYCHOSOCIAL HEALTH PROBLEMS: TOWARD A GENDERED MODEL OF HIV SEXUAL RISK PROCESSES IN GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN
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Background: Internalized heterosexism (IH) occurs when gay, bisexual, and other men who have sex with men (GBMSM) internalize negative societal attitudes toward their own sexuality. IH has often been used to explain why GBMSM are at increased risk of contracting HIV. However, meta-analysis has revealed that the association between IH and HIV sexual risk behavior in GBMSM is generally small and has decreased over time (Newcomb & Mustanski, 2011). Although these findings challenge the usefulness of IH in HIV research, theory and research from the psychology of men and masculinity may offer a context for IH’s continued use. Furthermore, this context may warrant a new “gendered” model of HIV sexual risk processes in GBMSM.

Description: The goal of the current project was to provide a brief summary of the potential impact of masculinity on HIV sexual risk behavior in GBMSM to support the development of a multivariate model of HIV sexual risk processes in GBMSM based on The New Psychology of Men using The Gender Role Strain Paradigm as a framework. A comprehensive review of the literature using PsycInfo key terms including Masculinity, Gender Identity, Male Homosexuality, and HIV was conducted.

Lessons learned: The present review supports the model that IH may have both direct and indirect (through psychosocial health problems) effects on HIV sexual risk, but that these effects of IH on HIV sexual risk may be moderated by psychological concepts of masculinity. That is, the effects of IH on HIV sexual risk are conditional, depending on the degree of endorsement of psychological concepts of masculinity. There are three locations within the proposed model where psychological concepts of masculinity may serve as a moderator: the direct effect of IH on sexual risk, the effect of IH on psychosocial health problems, and the effect of psychosocial health problems on HIV sexual risk.

Conclusions/Next steps: The next step is to test the model using longitudinal process analysis. If findings support the model, a masculinity based HIV prevention intervention will then be designed and tested.

TUPE328
THE PANADO PROBLEM: MEDIATING HEALTH AND HIV SERVICE PROVISION IN THE COMMERCIAL AGRICULTURAL SECTOR - A STUDY OF EMPLOYER ATTITUDES AND PRACTICES IN TWO DISTRICTS IN SOUTH AFRICA
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Background: HIV prevalence amongst farmworkers in parts of Limpopo and Mpumalanga provinces in South Africa is twice that of the local district despite the provision of government clinic and mobile health services, and two well-functioning NGO health programmes targeted to farmworkers. This study examines the farm employers role in mediating the delivery of health and HIV services to farmworkers.

Methods: A mixed methods study (secondary quantitative and primary qualitative data) purposively sampled 20 commercial farms serviced by government and NGO health services. The sample was stratified to include farms with less than 100, between 100 and 500, and more than 500 workers. In-depth, semi-structured interviews were conducted with the employer at each site to explore attitudes and practices to HIV and related health services for farmworkers. Complementary information was collected about the health service provision and the policy environment.

Results: The Panado Problem is a metaphor for the status quo amongst farm employers to HIV, health and wellness of their workers. Panado, a paracetamol based painkiller, was referenced by farm employers to describe both the promise and failure of heath services, highlighting a complex set of contradictions faced by the employer. These contradictions are found in the workplace determined expression of worker rights to HIV care and support: Access to health care is time and productivity for the employer, which when pitted against workers’ right to privacy, places employers in an ambivalent position regarding access to HIV and health services for workers.

Conclusions: Two models of NGOs service provision ease the mediation of these persistent contradictions, but do not resolve these for either the employer or worker.

TUPE329
TECHNOLOGY-RELATED PREDICTORS OF SOCIAL ISOLATION AMONG YOUNG BLACK MSM
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Background: Young black men who have sex with men (YBMSM) are disproportionately affected by HIV. Social networking sites facilitate opportunities for YBMSM to meet sex partners, but may also create supportive communities and provide health information access.

Methods: healthMpowerment.org (HMP) is a mobile-phone-optimized, Internet-based intervention for YBMSM that provides information, resources, tailored feedback, and social networking platforms to offer and receive social support from peers. A randomized controlled trial of HMP enrolled 474 YBMSM in North Carolina between November 2013 and October 2015. Bivariate and multivariate analyses were conducted at baseline to identify technology-related predictors of social isolation measured by perceived social support received by family and friends using the Lubben Social Network Scale-6.

Results: The mean age was 24.3 years, 39.5% were HIV+. Men reported a mean of 7.35 hours of Internet use per day, 98.3% in the past month using a mobile device. 96.1% owned smartphones. Almost all (98.7%) had ≥1 account on a social networking site; the mean number of accounts was 3.62. Overall 36.4% of participants were socially isolated. Socially isolated YBMSM had fewer social networking accounts (3.16 versus 3.88; p < 0.01), and were less likely to use Twitter or Instagram compared to those who were not socially isolated. There was no differen
ence in Facebook usage between the groups. Those who were socially isolated were less likely to search for sex partners online, though were more likely to search for partners using Craigslist (p < 0.01). Social isolation was associated with less health application (app) usage in the previous three months (30.8% vs. 40.5%, p=0.038). In multivariate analysis controlling for age, education, income and HIV status, a greater number of social network sites used (OR 0.87, CI 0.76-0.99) and health app usage (OR 0.64, CI 0.43-1.06) were associated with decreased social isolation.

Conclusions: Online social networks may help YBMSM find others and reduce feelings of social isolation. This could be particularly important for those living in rural areas or who face stigma around their sexuality or HIV status. A comprehensive understanding of YBMSM online behaviors, including usage patterns and specific sites used, can inform future prevention interventions.

**TUPED330**

Youth and alcohol: Using Photovoice participatory methods to understand the role of alcohol availability, promotion and affordability on young people's HIV risk and safety in South Africa

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Background: South Africa has one of the highest rates of heavy episodic drinking in the world and a strong link between alcohol misuse and HIV sexual risk behaviour has been established. This study aimed to quantify the availability of alcohol and document the lived reality of youth as they see alcohol advertisements and promotions in their everyday lives.

Methods: The study was conducted in a rural village and an urban township in South Africa. GPS mapping of alcohol outlets captured the density, distribution and proximity of venues to community resources such as schools. Alcohol adverts/promotions were captured at each venue. PhotoVoice methodology was used to understand young adults’ perceptions of alcohol availability, pricing and promotions in their communities, and how these influenced sexual risk and safety. GPS coordinate data was analysed using QuantumGIS. Focus group discussions were analyzed thematically using ATLAS.ti.

Results: Alcohol was widely available with 4 -5, and 8-10 alcohol outlets per main street in the rural site and urban site, respectively. Youth have easy access to alcohol due to weak implementation of regulations at retail points, and at community gatherings. Adults sending children to purchase alcohol on their behalf was a common experience. Alcohol advertising was attractive and often led youth to try different brands and beverages. Promotional activities including celebrity events and discounts 'happy hour' or 'buy 1 get 1 free' attract youth to taverns. Youth are exposed to gendered marketing strategies that attract women to drink ciders/alcopops and men to drink beer. While respondents cited some benefits for alcohol consumption including employment, decreased emotional distress, bravery and heightened fun, they mostly discussed the negative consequences including interpersonal violence, loss of employment, unsafe sexual intercourse and potential sexual assault.

Conclusions: Alcohol is a structural driver of HIV risk and is commonly overlooked by the HIV prevention field. Easy access and strong alcohol advertising campaigns increase youth vulnerability to harmful drinking and related sexual risk behaviour. There is a need to regulate alcohol availability in communities, while advocacy, public education and media literacy are required to shift norms that advertisers use to attract youth to consume alcohol.

**TUPED331**

Experiences of police violence among behaviorally bisexual African American men and their female partners: The structural context of HIV

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Background: Police violence disproportionately targets African American men and women in the United States, and research increasingly demonstrates linkages between police violence and risk for HIV and STIs.

Methods: We developed the Experience of Police Violence Scale as a 26-question measure to assess direct and observed experiences of verbal, physical, and sexual violence by police officers, and to assess perceptions of law enforcement and the effects of these on HIV risk behaviors. Data are being collected in an ongoing mixed methods HIV prevention study with behaviorally bisexual African American men and their female partners in the San Francisco Bay Area.

Results: Analyses conducted with 46 interviews completed to date (30 male, 16 female) indicate high rates of lifetime, past year, and recent (six month) experiences of observed and direct police violence. Men reported higher rates than women of witnessing (73% of men, 56% women) and directly experiencing police harassment (57% of men, 44% women), and witnessing (47% of men, 38% of women) and experiencing police physical abuse in their lifetime (40% of men, 25% of women). Sexual abuse by police officers was less common. 57% of the men and 44% of women reported that they have chosen not to carry safer injection materials (syringes, cookers, etc.) for fear of being targeted by the police. The area in which women reported higher effects of police fear was in carrying condoms - almost one third (31%) of women reported choosing not to carry condoms for fear of being targeted by the police (compared with 21% of men). 100% of women agreed with both of the statements that “Police officers unfairly target Black women,” while 83% and 80% of men agreed with those statements, respectively. Approximately two thirds of the sample reported that the police unfairly target LGBT people, and that they avoid asking the police for help when they need it.

Conclusions: These findings indicate the effects of police violence and fear of police violence on HIV risk among two populations disproportionately impacted by HIV, African Americans and sexual minorities. Further research is needed to examine these linkages longitudinally.
Background: Studies have increasingly confirmed the fundamental role of structural and social drivers of HIV. Yet many analyses of the impact of social and political factors on the bureaucratic processes through which the epidemic is “administered” by activist organizations remain superficial. In Brazil, broad changes over the past decade in how HIV funding is dispersed have been aggravated by recent political setbacks in the arena of sexual rights, creating challenges for many NGOs. This research explored the relationship between sex worker rights organizations and state AIDS bureaucracies to understand how contextual factors influenced various bureaucratic “ization” processes (ex. institutionalization, decentralization) during this time period.

Methods: Ethnographic fieldwork was conducted from November 2011 through October 2014 in three Brazilian cities. The research presented draws on participant observation with sex worker rights organizations, 21 oral histories with sex worker activists and AIDS program administrators at the state and municipal levels.

Results: Bureaucracy emerged in narratives as both a hurdle to activism and a scapegoat for State responsibility. Activists identified institutionalization as one of their main impediments to realizing their grassroots advocacy work. Organizations were overwhelmed by bureaucratic requirements for reporting and funding requests, emphasizing how consequences for not following the rules appeared to increase at the same rate that the political climate became more conservative. State officials also shared deep frustrations with the restrictions surrounding government funding for NGOs. A history of blurred and contested lines between government and non-governmental responsibilities added an important layer of complexity to the analysis. Sex worker organizations responded using cultural interventions to circumvent deleterious effects of bureaucracy.

Conclusions: Although generally portrayed as neutral, bureaucratic “ization” processes are often contrary to activist goals, transforming power into something that activists can’t control. Bureaucracy emerges as both a hurdle to activism and a scapegoat for State responsibility. Activists identified institutionalization as one of their main impediments to realizing their grassroots advocacy work. Organizations were overwhelmed by bureaucratic requirements for reporting and funding requests, emphasizing how consequences for not following the rules appeared to increase at the same rate that the political climate became more conservative. State officials also shared deep frustrations with the restrictions surrounding government funding for NGOs. A history of blurred and contested lines between government and non-governmental responsibilities added an important layer of complexity to the analysis. Sex worker organizations responded using cultural interventions to circumvent deleterious effects of bureaucracy.

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nervations were reported among 69.9% of the venues verified. Commercial sex work, MSM, and workers at these sites were among the key populations identified at the sites. Most sites were quite stable, with over 70% being in operation more than one year. There were gaps in HIV prevention programs at these sites. For example, 14.2%, 13.1% and 9.8% of the verified sites had any free condom distribution, any one year. There were gaps in HIV prevention programs at these sites. For example, transmission where it is concentrated.

**Results:** Higher social and political participation was associated with lower rates of late HIV diagnosis in New York City (NYC), but higher rates in Philadelphia. Social cohesion was associated with lower rates of late HIV among women in NYC but unrelated to the outcome in Philadelphia. Collective efficacy was associated with lower rates of late HIV diagnosis but conversely lower prevalence of engagement in HIV care in Philadelphia.

**Conclusions:** The associations between social capital and HIV outcomes vary across social capital indicators, gender, geographic level, and urban setting. Limitations include inability to determine causal inference, lack of subgroup stratified social capital or HIV data by transmission risk. Study strengths are population HIV surveillance and social capital data. Findings underscore the need for longitudinal and multilevel research on the topic.

**TUPE337**

**BARRIERS TO PRE-EXPOSURE PROPHYLAXIS (PrEP) ENGAGEMENT FOR BLACK MEN WHO HAVE SEX WITH MEN IN NEW YORK CITY: WHY PREVENTION LITERACY MATTERS**

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**Background:** Black men who have sex with men (BMSM) have the highest HIV incidence rates in the US. New prevention methods such as pre-exposure prophylaxis (PrEP) provide strategies to address HIV-related vulnerabilities among BMSM, but there has been insufficient consideration of how community-level factors shape PrEP uptake. This ethnographic study assessed the approaches necessary to advance PrEP as a prevention strategy for BMSM in New York City (NYC).

**Methods:** BMSM in NYC (n=31) participated in three 90-minute in-depth interviews. We also interviewed seventeen community stakeholders. Interviews were taped, transcribed, and analyzed within and across cases to explore individuals’ experiences with HIV prevention (specifically PrEP).

**Results:** Three key findings demonstrated the community-based challenges to PrEP adoption: (1) Men described feeling a lack of ownership over existing HIV prevention tools. Most reported HIV-related risk behaviors but were uncomfortable with, and even unaware of, prevention options aside from condoms. The few men who knew about PrEP felt that it was forced upon the community and expressed a desire for a wider range of prevention options. (2) Many BMSM expressed an intense distrust of the medical establishment and reported strong resistance to taking a pill simply because their doctor said they should, which could diminish the likelihood of BMSM adopting PrEP. (3) Participants felt disempowered by healthcare providers when they voiced their own healthcare-related needs and the prevention options that might best fit within them. BMSM interactions with healthcare providers did not provide opportunities for them to take ownership over HIV prevention behaviors that would serve their unique needs.

**Conclusions:** For the promise of PrEP to be fulfilled for BMSM, it is vital to pair the provision of PrEP with community-based education approaches. Similar to how “treatment literacy” campaigns support treatment access, “prevention literacy” at the community level can be a critical strategy to facilitate genuine grassroots demand. Consciousness-raising and mobilization efforts are essential for BMSM to (1) choose PrEP based on their prevention needs and not at the behest of a provider; (2) understand how the medication works to facilitate adherence; (3) comprehend medical results and outcomes, and (4) feel comfortable discussing their sexual practices with providers.

**TUPE338**

**RESEARCH ON SOCIAL CAPITAL AND HIV OUTCOMES IN THE UNITED STATES: RESULTS, CHALLENGES AND FUTURE DIRECTIONS**

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**Background:** Social capital is broadly defined as the structure of networks and collective resources within a community that residents can benefit from. Social capital is a key determinant of HIV outcomes (e.g., HIV incidence and late HIV diagnosis) in the population. Research on social capital and HIV is limited in the United States setting. We therefore investigated the ecological links between social capital and HIV outcomes along the stages of HIV care. We discuss the state of the evidence globally and within the United States, present our empirical findings and close by highlighting challenges and future directions of the research.

**Methods:** We examined whether neighborhood social capital (social cohesion, social participation, and collective efficacy) in 2004-2006 is associated with lower 5-year average (2007-2011) prevalence of late HIV diagnosis and higher prevalence of persons linked to HIV and engaged in HIV care within Philadelphia, PA Census tracts (n=332). In a second study, we conduct ecological analyses (ZIP code, N=166) using negative binomial regression of gender-specific rates of late HIV diagnoses (an AIDS defining illness or a CD4 count <200 cell/μL within 12 months of a new HIV diagnosis) in 2005 and 2006 obtained from the New York City HIV Surveillance Registry, and social capital indicators (civic engagement, political participation, social cohesion, and informal social control) from the New York Social Indicators Survey, 2004.

**Results:** Higher social and political participation was associated with lower rates of late HIV diagnosis in New York City (NYC), but higher rates in Philadelphia. Social cohesion was associated with lower rates of late HIV among women in NYC but unrelated to the outcome in Philadelphia. Collective efficacy was associated with lower rates of late HIV diagnosis but conversely lower prevalence of engagement in HIV care in Philadelphia.

**Conclusions:** The associations between social capital and HIV outcomes vary across social capital indicators, gender, geographic level, and urban setting. Limitations include inability to determine causal inference, lack of subgroup stratified social capital or HIV data by transmission risk. Study strengths are population HIV surveillance and social capital data. Findings underscore the need for longitudinal and multilevel research on the topic.

**TUPE339**

**ASSESSING HOUSEHOLD ECONOMIC VULNERABILITY IN HIV-AFFECTED COMMUNITIES IN FIVE REGIONS OF CÔTE D’IVOIRE**

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**Background:** Economic strengthening interventions are used in programming for vulnerable children to curb the effects of poverty on susceptibility to HIV and to mitigate the economic effects of HIV. Our objective was to identify and describe levels of household economic vulnerability in HIV-affected communities in Côte d’Ivoire to inform and target economic strengthening interventions for vulnerable households. Our approach was to identify sets of correlated vulnerabilities and derive a single composite score to create an index or scorecard that could be used to target vulnerable populations with a standard package of interventions to reduce their vulnerability.

**Methods:** In March and April 2015, we conducted a cross-sectional survey of 3,749 households in 78 purposely selected villages or urban neighborhoods in five health regions of Côte d’Ivoire. In each region, households with current and potential beneficiaries of services provided by the United States Agency for International Development and the President’s Emergency Plan for AIDS Relief (USAID/PEPFAR) were randomly selected using a stratified multistage sampling design. Sixty-five district- and within the United States, presented our empirical findings and close by highlighting challenges and future directions of the research.

**Results:** Four components were retained and explained only 21% of the total variance in the measures. The component with the largest number of associated measures indicated a household’s level of wealth and food security. Findings from the PCA, as well as the other indices, suggest that USAID/PEPFAR serves the most vulnerable households in the study regions on several, but not all, measured dimensions of vulnerability.

**Conclusions:** The vulnerability measurement did not cluster in ways that would allow for the creation of a small number of composite measures. Instead, we found numerous pathways to vulnerability such that households have their own unique set of conditions making them vulnerable. Our findings suggest that simple indices are inadequate to capture a broad concept of HIV-related economic vulnerability, and that donors and implementers should avoid simplified quantitative targeting tools in this context. Instead, a case management approach may be the best way to address the complex pathways of vulnerability.
TUPE340
DATA MINING REVEALS DISPARITIES IN HIV VIRAL LOAD SUPPRESSION
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Background: Viral load suppression (VLS) through effective antiretroviral therapy (ART) reduces the risk of morbidity and mortality for people living with HIV (PLWH) and improves the health of PLWH. Disparities in viral load suppression among PLWH and can be manifested by age, race or ethnicity, sexual orientation and income. Contemporary analytical techniques may provide a more precise modeling of disparities than traditional statistical techniques and identify common barriers to VLS.

Methods: We evaluated viral load suppression among a sample of 11,419 adult PLWH receiving treatment from 186 New York State HIV clinics in 2013. Information from patient medical records was abstracted using manual chart review. Disparities in VLS were examined with classification and regression tree analysis (C&RRT), a commonly used data mining technique.

Results: 77.8% (8,885) of patients were virally suppressed. C&RRT identified 8 mutually exclusive subgroups with varying rates of VLS. Housing status, substance abuse, and insurance payer and not race/ethnicity were predictive of viral load suppression. Patients who abused substances and were unstably housed had the lowest rate of VLS (52%).

Conclusions: Substantial disparities in viral load suppression rates exist among patients engaged in HIV medical care. Racial and ethnic inequalities likely reflect social determinants of health including housing instability and substance use. The information-rich results from C&RRT can be used as a basis for targeted and tailored interventions to improve patient and population health outcomes.

TUPE341
SOCIAL AND ECONOMIC BARRIERS TO CARE AND TREATMENT FOR BLACK MEN WHO HAVE SEX WITH MEN (BMSMW) WHO ARE LIVING WITH HIV: LESSONS FROM THE BRUTHAS COHORT
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Background: Black MSM suffer astonishing rates of HIV, with 20-25% of incident cases in the US. A subset of BMSM, BMSMW, are diagnosed later, and are more likely to be poor and have reduced access to health care than BMSM. BMSMW often insist on secrecy about their same sex desire as well as their HIV status, and may experience unique barriers to seeking regular care and treatment, and achieving viral suppression.

Methods: From February 2011-May 2014, we recruited 400 BMSMW in the San Francisco Bay Area into a randomized controlled trial, of whom 13% (52) men reported being HIV+. To learn more about their care and treatment experiences, we invited N=25 to be interviewed between May-December 2014. Topics included: current living situation, social support and disclosure, experiences of accessing and maintaining care and treatment, and HIV-related stigma. Recordings were transcribed and coded for major themes, which were discussed in analytic memos.

Results: Men faced significant social and economic barriers to maintaining regular care and treatment adherence. At baseline, 40% were homeless in the past year and 80% were currently unemployed. Participants had trouble securing affordable housing, found disability payments inadequate to cover subsistence needs, and felt frustration over their inability to gain formal employment and stable income. Concerns over meeting basic needs took precedence over medical appointments and medication adherence. Pursuing opportunities in the informal economy was reported as a reason for missing medical appointments, and losing pills on the streets and the lack of privacy in homeless shelters made it difficult for unstably housed men to remain adherent to treatment. Men received little social support from family or friends for being in care or on treatment because of their reluctance to disclose their HIV status to others given their concerns about homophobia and HIV-related stigma.

Conclusions: HIV health promotion efforts for BMSMW must also include attending to their basic social and economic support needs. Integrating access to HIV care and treatment into services for poor unstably housed individuals may facilitate better adherence. Peer groups of BMSMW who are comfortable disclosing to each other could provide HIV-specific forms of social support to improve outcomes.

TUPE342
FOOD INSECURITY, HIV RISK BEHAVIOR AND VIOLENCE AMONG FEMALE SEX WORKERS IN INDIA: EVIDENCE FROM AVAHAN-III EVALUATION STUDY
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Background: Food insecurity is one of the important contributing factors among female sex workers to engage in risky sexual behaviors and cause of HIV in developing countries. Studies exploring linkages between food insecurity and HIV risk behaviors among FSWs are limited despite having potential program and policy implications. This study attempts to assess the food insecurity among FSWs and examine its relationship with HIV risk behavior and violence in India.

Methods: Data were drawn from the Avahan-III baseline evaluation survey-2015, conducted among FSWs (n=408) using two-stage cluster sampling approach in five states of India. Multivariate logistic regression (with adjusted odds ratios (AOR) and their 95% confidence intervals (CI)), bivariate analysis and frequency were used to assess the relationships between food insecurity, HIV risk behaviors and violence.

Results: Newly one-fifth of FSWs (17%) reported of facing food insecurity in past 6 months. More than 35% of FSWs had entertained more clients to cope with the situation of food insecurity followed by defaulted on loans (24%), borrowed money from informal sources (20%) and had sex without condoms (7%). The likelihood of using consistent condom use with non-regular (67% vs. 77%; AOR: 0.6; 95% CI: 0.4-0.9) and regular partner (22% vs. 51%; AOR: 0.3; 95% CI: 0.2-0.4) were significantly lower among FSWs those had food insecurity than others. The likelihood of using consistent condom use with occasional (AOR: 0.5; 95% CI: 0.4-0.7) and regular clients (AOR: 0.8; 95% CI: 0.6-0.9) were significantly lower among FSWs those have reported food insecurity compared to those not. FSWs those faced food insecurity were also at higher degree of reporting STI symptoms (28% vs. 13%; AOR: 2.7) and violence (16% vs. 9%; AOR: 2.1) than their counterparts.

Conclusions: The findings of the study highlight that FSW’s food insecurity is significantly associated with unprotected sex, other HIV risk behaviors and violence. This study underscores the need for community-led interventions focusing on food insecurity and economic strengthening activities to reduce HIV vulnerability among FSWs. However, further evidence based research and advocacy on food insecurity are required to ensure that HIV prevention programs are appropriately addressed.

TUPE343
LONG-TERM LABOUR MARKET ATTACHMENT PREDICTS KEY ANTIRETROVIRAL THERAPY OUTCOMES AMONG PEOPLE WHO USE ILLICIT DRUGS IN A SETTING OF UNIVERSAL HIV HEALTH CARE COVERAGE
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Background: A growing body of observational research links employment with key measures of health among people living with HIV (PLHIV), including antiretroviral therapy (ART) adherence, mortality, and virologic suppression. However, studies to date have focused on employment at a single point in time rather than looking at labor market attachment over time.

Methods: Using data from the AIDS Care Cohort to Evaluate Access to Survival Services (ACCESS), a cohort of HIV seropositive people who use illicit drugs in Canada, we categorized labor market attachment as the proportion of all observations individuals report being full-time, temporary or self-employment, ranging from no employment (no observations), rarely employed (0-1/3), sometimes employed (1/3-2/3), and often employed (>2/3). Using multivariate generalized estimating equations, we then predicted associations between labor market attachment and ART outcomes in the previous six months, controlling for relevant confounders. Outcomes examined included no ART exposure to date, ART exposure with no dispensation, ART exposure with sub-optimal dispensation and optimal (>95%) ART dispensation.

Results: Between May 1996 and May 2015, of 1,136 participants, 608 (53.5%) reported no employment, 316 (27.8%) were rarely employed, 138 (12.1%) were sometimes employed and 74 (6.5%) were often employed. In GEE analyses, individuals in the rarely (adjusted odds ratio [AOR]: 0.64; 95% confidence interval [CI]: 0.50-0.84) sometimes (AOR: 0.62; 95% CI: 0.43-0.90) and often (AOR: 0.47; 95% CI: 0.27-0.80) employed groups were significantly less likely to be ART naive than those reporting no employment. Additionally, individuals in the rarely (AOR: 1.33; 95% CI: 1.09-1.61) and sometimes (AOR: 1.47; 95% CI: 1.12-1.95) employed groups with significantly more likely to have some ART dispensation in the past six months, and
those who were often employed were significantly more likely than those reporting no employment to have optimal ART dispensation in the past six months (AOR: 1.50; 95% CI: 1.07-2.11).

Conclusions: This study documents low levels of labour market attachment among PLHIV who use illicit drugs and identifies labour market attachment over time as a significant differentiator for ART outcomes. Results point to the need for long-term strategies to promote labour market involvement among key affected populations.

**TUPE344**

**FOOD INSECURITY IS ASSOCIATED WITH INTERNALIZED STIGMA AMONG WOMEN WITH HIV IN THE UNITED STATES**

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Background: Food insecurity and internalized HIV stigma are independently associated with poor HIV clinical outcomes, but few studies have examined how food insecurity and HIV stigma are related or mechanisms underlying these relationships. We hypothesized that food insecurity would be associated with internalized stigma, and that the association would be mediated via depression and poor physical health.

Methods: We used cross-sectional data collected in 2013 from the Women's Intergency HIV Study, a national multisite study of women with or at risk for HIV in the United States. In validated scales, we assessed associations between food insecurity (Household Food Security Survey Module) and internalized stigma (HIV Stigma Scale). We assessed depressive symptoms (Center for Epidemiologic Studies Depression) and physical health status (SF-36) as potential mediators. We utilized recursive structural equation modeling to test study hypotheses, controlling for potential demographic, socioeconomic, and clinical confounders. The analysis included 1240 women with HIV.

Results: Almost half (41.6%) were food insecure (i.e. with marginal, low, or very low food security), and mean [SD] internalized stigma scores were 1.76 [0.63] (range 1-4, higher scores = higher stigma). In adjusted models, increasing severity of food insecurity was significantly associated with internalized stigma, indicating a dose response relationship: [β=0.09, β=0.21, and β=0.49 (all p<0.00) for marginal, low or very low food security, respectively, compared to high food security. Increasing food insecurity was also associated with higher depressive symptom severity and worse physical health status (both p<0.05). In mediation models of food insecurity and internalized stigma, only depressive symptom severity was significantly associated with stigma (β=0.02, p<0.05) and attenuated the association between food insecurity with food insecurity. Mediation varied by marginal, low, and very low food security: 81.3%, 50.0%, and 35.2%, respectively, of the total association between food insecurity and internalized stigma operated via depressive symptoms.

Conclusions: Food insecurity is associated with internalized HIV stigma among women in the US, which may partially operate via depressive symptoms for women with less severe food insecurity. Our findings suggest that addressing food insecurity may be relevant to HIV stigma-reduction interventions. However, longitudinal studies are needed to confirm the direction of this important, preliminary association.

**DYNAMICS OF SOCIAL STATUS AND POWER: GENDER, AGE, ETHNICITY AND DISABILITY**

**TUPE345**

**“THOSE MEN OF OURS HAVE SUCH FRAGILE HEARTS”: ANTHROPOLOGICAL PERSPECTIVES ON GENDER DIFFERENCES IN TREATMENT OUTCOMES IN A LARGE-SCALE, PUBLIC-SECTOR HAART ROLLOUT PROGRAM IN NAMIBIA**

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Background: Namibia has achieved universal access to HAART. While equity has been a major focus of rollout, men continue to be treated in lower numbers and have worse outcomes than women. This study examines the socio-cultural factors behind gender disparities in HAART outcomes.

Methods: This in-depth study was conducted near Walvis Bay, Namibia. The mixed-methods approach combined a quantitative analysis of patient inputs and outcomes at a HAART clinic with 18 months of ethnographic research on 12 patients and ongoing participant-observation in the community.

Results: Men outnumber women in the city population (63%), but are under-represented in testing (51%), care (44%) and HAART initiation (47%), and over-represented in mortality (59.7%). This may be largely attributable to differences in gender roles. Establishing both ‘modern, urban’ and ‘traditional/rural’ feminine identity was complimentary to HAART. Many women reported testing positive in antenatal screening, which allows timely linkage to care. Motherhood was described as a guarantor of social capital and support, and a motivation for adherence. Among men, testing was not socially valued and the clinical and social requirements of HAART conflicted with gender roles that demand risk taking, employment (or the appearance of employment) and independence and discourage health-seeking behaviour. Many men felt frustrated by an inability to achieve and maintain masculine identity in a precarious economy, and described the demands of HAART as incompatible with masculinity. Those men who succeeded reported strong social support, disinterest in prevailing gender norms, and clinic cooperation with accommodating travel and work schedules.

Conclusions: Social-cultural and political-economic forces shape HAART outcomes powerfully. Efforts to better engage men will be crucial for ensuring equitable access to the benefits of HAART as rollout expands across sub-Saharan Africa. Men need safe pathways into care to facilitate earlier diagnosis, delivery methods that accommodate work and travel schedules, and support structures to improve retention.
TUPE0347
UNDERSTANDING THE SOCIAL BARRIERS TO HIV SERVICE UTILISATION AMONG OLDER PEOPLE IN BOTSWANA
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Background: The impact of the HIV epidemic on older people is shaped by the social, political, economic and demographic circumstances in which they live. Projection point to a rise in the number of people aged 50 and older living with HIV (PLWH), in Botswana, as well as increased rates of new HIV infections within this sub population. Despite this, little is known about the social factors that affect HIV service utilization in this cohort.

Methods: We conducted semi-structured face-to-face, in-depth qualitative interviews with 50 consenting PLWH. N=50 interviews. Interview questions examined the values, behaviours and social context of older adults to gain insight and explore the complexity inherent in living with HIV in Botswana. A conceptual framework for social analysis of reproductive health, developed by Price and Hawkins, was adapted to serve as a guide for our analysis.

Results: Negative stereotypes about older persons are a major challenge to healthcare utilisation among older people. Interviewees noted perceived isolation, rejection, stigma and ageism as their biggest challenge in their day-to-day interaction with the community and health personnel in general. Current services focused on individual-level interventions and outcomes, thus neglecting structural interventions, community interventions and social outcomes. Interviewees felt that healthcare providers regarded support for older people as being primarily a family responsibility and hence feel obliged to be content with whatever services are rendered. They, however note rejection as the major the limitation for relying on family and friends for social support. Interviewees noted that less attention was paid to the complexity presented by sexual health and exploration, needs and demands among older adults, particularly older women, who are often rendered non-sexual and therefore for social support. Interviewees noted that less attention was paid to the complexity presented by sexual health and exploration, needs and demands among older adults, particularly older women, who are often rendered non-sexual and therefore not expected to be sexually active. The majority of the interviews showed a lack of understanding in accessing and utilizing public health services available and often felt at the mercy of the system riddled with “come back tomorrow” delayed report.

Conclusions: The quality of life in adults aging with HIV in Botswana is in question due to social isolation as well as medical complications, poorer mental health, institutionalised stigma and ageist tendencies from health care providers and society at large.

TUPE0348
A STUDY OF FACTORS AFFECTING MALE INVOLVEMENT IN HIV-RELATED SERVICES IN MALAWI
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Background: The HIV epidemic in Malawi is feminized, with an estimated 12.9% of women infected, compared to 8.1 % of men (aged 15-49). Evidence shows these services can be more effective and long lasting with active participation of their male counterparts. Involvement of males in HIV related services is important. Available evidence suggests the proportion of males actively involved in HIV services is lower than that of females. The main objective of the study was therefore to assess factors contributing to low male involvement in HIV related services.

Methods: A mixed method approach was used, including secondary analysis of data; review of relevant policy documents, study and program reports; key informant interviews at national, zonal and district levels and in-depth and focus group discussions. Non probability sampling methods were used in sampling participants.

Results: Respondents report that the health delivery system is male unfriendly, with health facilities located very long distances from most people and providing HIV services under environments deemed too public for a condition highly stigmatized. HIV services were observed to be concentrated in or near urban or semi urban areas. Societal construction negatively affects male health seeking behaviour, with men being often over represented and the fear of sexual health seeking a sign of weakness. Fear of stigma and losing partners was another reported reason for minimal participation of males. Myths and misconceptions were also identified.

Conclusions: Despite concerted attempts to include male involvement as an approach to fight HIV infection; there is need to mainstream male involvement in programing and implementation. Male friendly environments as well as improved availability and access of male targeted HIV services are needed. Integration of live-lihood programs with HIV services and use of male peer campaigners may positively influence male participation. There is need to deconstruct gender based constructs that inhibit strong health-seeking behaviour among men.

TUPE0349
BLACK AND QUILOMBOLAS HIGH SCHOOL STUDENTS VULNERABILITY TO HIV/AIDS: SEXUAL VIOLENCE, COMMUNITY STIGMATIZATION AND LACK OF ACCESS TO PREVENTION PROGRAMS SHOULD BE MITIGATED
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Background: Literature on Brazilian AIDS epidemic rarely analyzes race/ethnicity. Native Brazilians and black people are 51,1 % of the population and are socially vulnerable for all social indicators - schooling, jobs, housing, police violence and, of course, health. This study analyzed the singular vulnerability of quilombolas high schools students to HIV infection in Brazil. Quilombolas are centuries-old black communities founded by Afro-descendants that escaped from slavery and stayed isolated until the 1960s, mostly in forests and islands.

Methods: An ethnographic study and a survey among teenage students assessed HIV/pregnancy prevention knowledge, access to prevention tools and sexuality practices in 6 different school contexts in two Brazilian States, before a prevention-intervention. Three schools were in the Brazilian-DF capital metropolitan area and the other three were located at a Sao Paulo state rural area also serving quilombola communities. After parental authorization the students completed the survey. We analyzed data from all 925 students of 15-19 years old using reported “skin color”, the Brazilian census category, categorized as non-black x black; subsequently, we compared quilombola students answers with their non-quilombola colleagues in the São Paulo region (n=372) using Kruskal Wallis and Pearson Chi-Square test (< 0.01).

Results: The only significant difference among black (62.5%) and non-black students in all 6 sites was an earlier age of first sexual intercourse. When comparing quilombolas (22% of 372) with non-quilombolas (78%) in São Paulo, this difference was larger (13.5 x 14.7). Still, quilombolas students had more sexual partners, lower prevention knowledge, lower AIDS risk perception, lower access to condoms; they were the segment more likely to report events of sexual abuse (20% x 5%). Ethnography showed different quilombola community experiences of stigmatization and a divided transition from traditional culture to recent adherence to Christian- evangelic churches. We could not discuss sexual violence within the consented research process.

Conclusions: The quilombola’s social vulnerability as well as programmatic neglect is shared with other impoverished rural communities but have singularities demanding further research and investments to mitigate HIV/AIDS young people vulnerability, increasing in Brazil. Race-ethnicity and its related discrimination has been a cross-cutting issue to AIDS responses and should be focused in Brazil.
ECONOMIC TRANSITIONS AND SOCIAL AND CULTURAL CHANGE

TUPE350
PARTICIPATION IN ECONOMIC STRENGTHENING (ES) INTERVENTION AND HEALTH RELATED QUALITY OF LIFE (HRQOL) AMONG FOOD INSECURE PEOPLE LIVING WITH HIV (PLHIV) IN ETHIOPIA

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Background: Health-related quality of life (HRQoL); a comprehensive indicator of physical, mental, and social well-being; is increasingly used to assess the well-being of people living with HIV (PLHIV). This study aims to explore the association between engagement in economic strengthening (ES) intervention and HRQoL among food insecure PLHIV.

Methods: Comparative cross-sectional design was employed to compare HRQoL scores of food insecure PLHIV benefitting from the ES project of WFP Ethiopia to food insecure PLHIV not participating in ES. The study covered 620 ES and equal number of non-ES PLHIV. The standard Medical Outcome Survey (MOS) was used to measure HRQoL. Multiple linear regressions were run to analyze the relationship between the dependent variable (QOL domain scores) and the independent variables.

Results: On the average, PLHIV that have stayed in ES activities for a year or more have consistently higher magnitude of HRQoL scores in all MOS sub-scales included in the study, namely, general health perceptions, pain, role function, social functioning, mental health, energy/fatigue, cognitive function, health distress and health transition compared to the group comparison that are either not engaged or just to start engaging in ES activities, all significant at 0.001 levels. The mean HRQoL score difference between the two groups ranges between 14.4 and 18.7, with the highest mean difference in health distress score and the lowest in self-esteem score. Controlling for key socio-economic and demographic variables, engagement in ES increases MOS sub-scales by 14 to 18 points, all significant at 0.001 levels. As suggested by the magnitude of the coefficients of multiple linear regression models, the impact of engagement in ES activities on HRQoL is much more pronounced in terms of health distress, role functioning, and general health scores.

Conclusions/Next steps: Providing onsite HIV/health services enhances uptake; hence, the initiative will be replicated in additional hair and beauty worksites, as well as in female-dominated informal occupations, with the objective of reaching vulnerable young women with needed services.

ECONOMIC AND SOCIAL DYNAMICS AND IMPACTS OF INTERGENERATIONAL AND/OR TRANSACTIONAL SEX

TUPE351
INCREASING ACCESS TO HIV SERVICES FOR YOUNG VULNERABLE FEMALE WORKERS THROUGH THEIR TRADE UNIONS: THE CASE OF THE HAIR AND BEAUTY TRADE UNION IN KENYA

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Background: HIV incidence in Kenya is currently at 101,000 new infections per year. Moreover, 53% of people living with HIV (PLHIV) do not know their HIV status. Prevalence is higher amongst women (7.6%) than men (5.6%), with 21% of new adult HIV infections among young women (15-24). This initiative mobilized trade union activities in the hair and beauty sector to reach these vulnerable women with information and services.

Description: The initiative partnered with the Central Organization of Trade Unions in Kenya, its affiliate, the Kenya Union of Hair and Beauty Salon Workers, and the AIDS Healthcare Foundation to increase HIV services for young women within the hair and beauty sector and expand their access to social protection. Due to the nature of their work - commission-based incomes, lack of job security and social protection - young women often resort to selling sex to supplement their low incomes, increasing their vulnerability to HIV.

Through this partnership, union branch officials were trained on HIV management at the workplace. Onsite integrated health/HIV testing and counseling (HTC) services were provided in workplaces, combined with sensitization on the benefits of enrolling with the National Hospital Insurance Fund (NHIF). The union mobilized workers to join the hair and beauty SACCO (Savings and Credit Cooperative), encouraging them to save a portion of their income. The results:

- 3,476 young women were tested for HIV and those testing positive were referred for treatment
- 1,725 young women registered with NHIF and 189 enrolled with the SACCO
- 12,100 male and female condoms were distributed.

Lessons learned:
- Integration of HIV/heath services helps reduce stigma and increases uptake of HIV testing
- Engagement of trade union leaders, informal business association leaders and local administration is essential to effectively reach workers.
- Mobilization of vulnerable workers to register to NHIF and to enroll in saving schemes is key to ensure sustainable access to HIV services.

Conclusions/Next steps: Providing onsite HIV/health services enhances uptake; hence, the initiative will be replicated in additional hair and beauty worksites, as well as in female-dominated informal occupations, with the objective of reaching vulnerable young women with needed services.

VIOLENCE AND CONFLICT: POLITICAL, SOCIAL, STRUCTURAL, INTERPERSONAL AND FAMILY-BASED

TUPE352
PREVALENCE OF INTIMATE PARTNER VIOLENCE AND PHYSICAL AND MENTAL HEALTH OUTCOMES OF WOMEN LIVING WITH HIV IN AN URBAN CLINIC SETTING

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Background: Rates of intimate partner violence (IPV) in women living with HIV have been estimated at more than two times their HIV negative counterparts. IPV has been linked to a number of negative physical and mental health outcomes. However, limited data exists examining the impact of recent IPV on adherence to HIV care and subsequent treatment markers.

Methods: Women were recruited from an urban HIV specialty clinic. Women were eligible to participate if they had been attending the clinic for at least one year and reported having been in a relationship within the past one year. A one-time, tablet computer-based survey was used to assess past year IPV and reported mental health symptoms. These data were used in conjunction with medical records reviews to examine relationship between past year reports of IPV, mental health symptom and treatment markers (CD4 count and viral load measurements).

Results: A total of 242 women completed survey measures and had appropriate medical record data for inclusion. They were primarily black (92%) and non-Hispanic (99%). Half (n=122, 50%) reported some form of past year IPV. Of women reporting past year IPV, 39.3% reported depressive symptoms vs. 13.6% of women who had not experienced past year IPV (p<0.001) a similar pattern was identified for PTSD symptoms (33.6% vs. 12.7%, p< 0.001). In a multivariable regression model controlling for age, ART use, PTSD, depression and substance abuse, women who reported past year IPV were twice as likely to have CD4 counts less than 200 (OR: 2.62, 95%CI: 1.005-6.81, p=0.049) and detectable viral load (OR: 2.14, 95%CI: 1.14-4.00, p=0.018).

Conclusions: Fifty percent of women in this study reported past year IPV. Women who experienced recent IPV were more likely to have CD4 counts below 200 and detectable viral load measurements. They also reported more symptoms of PTSD and depression. Biopsychosocial frameworks need to be used to assess adherence and response to HIV treatment. Assessment and intervention for ongoing violence as a potential cause of mental health issues, barrier to medication adherence and source of chronic stress may offer providers an opportunity to improve care to their patients living with HIV.
HIV prevention programs can best serve women who experience IPV. Standing how IPV affects condom use has important implications for ensuring that abuse and neglect through the HIV continuum of care.

**Background:** 
Research indicates that women’s experience of intimate partner violence (IPV) is associated with incident HIV and that women who experience IPV may be less likely to use condoms. Previous studies have controlled for covariates on the causal pathway between IPV and condom use, like pregnancy status, which may attenuate the estimates of the effect of IPV on condom use. The goal of our study was to apply causal methods to a large cohort with repeated measures of IPV to estimate the effect of IPV on condom use.

**Methods:** 
We used data from waves 7-13 of the Rakai Community Cohort Study to estimate the effect of women’s experience of IPV during the year prior to survey on condom use at last sex. Women aged 14-49 at baseline who reported ever having sex at baseline or during follow-up and answered IPV and contraception-related questions were included in these analyses (N=8,525). We used inverse probability weights to account for time-varying confounders that were affected by prior exposure to IPV. Stabilized weights were estimated using time-fixed confounders (religion, tribe, age at first pregnancy) and lagged values of time-varying confounders (age, relationship status, occupation, partner’s occupation, education level, sexual and reproductive history, pregnancy intentions, pregnancy status, IPV exposure). A weighted marginal structural model, fitted with generalized estimating equations to account for the correlation of repeated measures within individuals, was used to estimate the effect of IPV on condom use.

**Results:** 
Women who experienced IPV in the year prior to survey were less likely to report condom use at last sex (Table 1) than women who did not experience IPV during that year. On average, any IPV, emotional, physical, or sexual IPV were associated with a 40% reduction in the odds of condom use at last sex.

**Conclusions:**
Women who experience IPV are less likely to use condoms. Understanding how IPV affects condom use has important implications for ensuring that HIV prevention programs can best serve women who experience IPV.

### Table 1. Estimates of the relation between women’s experience of IPV in the last year and condom use at last sex (N=8,525; 2000-2010)

<table>
<thead>
<tr>
<th>Type of IPV</th>
<th>Crude estimate</th>
<th>Unweighted logistic regression</th>
<th>Marginal structural model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
</tr>
<tr>
<td>Any IPV</td>
<td>0.56 (0.51, 0.62)</td>
<td>0.66 (0.59, 0.74)</td>
<td>0.62 (0.56, 0.69)</td>
</tr>
<tr>
<td>Emotional IPV</td>
<td>0.60 (0.54, 0.67)</td>
<td>0.71 (0.63, 0.80)</td>
<td>0.66 (0.59, 0.74)</td>
</tr>
<tr>
<td>Physical IPV</td>
<td>0.51 (0.46, 0.58)</td>
<td>0.60 (0.52, 0.68)</td>
<td>0.56 (0.49, 0.64)</td>
</tr>
<tr>
<td>Sexual IPV</td>
<td>0.56 (0.49, 0.63)</td>
<td>0.64 (0.55, 0.74)</td>
<td>0.58 (0.51, 0.66)</td>
</tr>
</tbody>
</table>

Risk factors for HIV & STI among women, but too little is known about how these factors affect men’s risk at the population level. Data on self-reported STI symptoms, while not diagnostic, allow for large-scale multinational data collection and analysis that is otherwise infeasible. We draw on data from the UN Multi-Country Study of Men and Violence in Asia and the Pacific to compare the relationship between violence, economically motivated sex, and STI risk across five countries.

**Methods:** 
Population-based household survey data from were collected from a total of 6,667 men aged 18-49 at sites across Bangladesh, Cambodia, China, India, and South Africa.

**Results:** 
Self-reports of ever having STI symptoms/diagnoses varied by country: Bangladesh 54.7% (95%CI 51.5 - 57.7); Cambodia 28.0% (25.5 - 30.7); China 24.5% (21.7 - 27.4); Indonesia 13.3% (11.7 - 15.0); PNG 36.2% (31.6 - 41.0). However, statistically significant adjusted odds ratios (aORs) from multiple logistic regression models showed consistent themes (controlling for the complex sample structure, age, lifetime partner numbers, substance use, and SES).

### Table 2. Crude and adjusted odds ratios (aORs and 95% confidence intervals) for self-reported STI

<table>
<thead>
<tr>
<th></th>
<th>Bangladesh</th>
<th>Cambodia</th>
<th>China</th>
<th>Indonesia</th>
<th>PNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violence against female intimate partner</td>
<td>1.20 (0.98 - 1.46)</td>
<td>2.25 (1.75 - 2.92)</td>
<td>2.38 (2.04 - 2.71)</td>
<td>2.81 (2.52 - 3.07)</td>
<td>1.76 (1.22 - 2.32)</td>
</tr>
<tr>
<td>Gang membership</td>
<td>1.78 (1.10 - 2.90)</td>
<td>1.69 (1.11 - 2.53)</td>
<td>1.49 (1.05 - 2.00)</td>
<td>1.87 (1.24 - 2.82)</td>
<td>1.90 (1.22 - 2.95)</td>
</tr>
<tr>
<td>Transactional sex with woman</td>
<td>1.51 (1.04 - 2.20)</td>
<td>1.81 (1.42 - 2.30)</td>
<td>1.47 (1.05 - 2.06)</td>
<td>1.87 (1.31 - 2.62)</td>
<td>1.69 (1.11 - 2.53)</td>
</tr>
<tr>
<td>Depression score</td>
<td>1.10 (1.07 - 1.13)</td>
<td>1.04 (1.02 - 1.07)</td>
<td>1.06 (1.01 - 1.13)</td>
<td>1.11 (1.07 - 1.14)</td>
<td>1.05 (1.01 - 1.09)</td>
</tr>
<tr>
<td>Childhood trauma score</td>
<td>1.04 (1.00 - 1.08)</td>
<td>1.10 (1.03 - 1.17)</td>
<td>1.00 (0.95 - 1.05)</td>
<td>0.94 (0.89 - 0.98)</td>
<td>0.94 (0.89 - 0.98)</td>
</tr>
</tbody>
</table>

**Background:** 
Violence and economically motivated sex are well-established risk factors for HIV & STI among women, but too little is known about how these factors affect men’s risk at the population level. Data on self-reported STI symptoms, while not diagnostic, allow for large-scale multinational data collection and analysis that is otherwise infeasible. We draw on data from the UN Multi-Country Study of Men and Violence in Asia and the Pacific to compare the relationship between violence, economically motivated sex, and STI risk across five countries.

**Conclusions:**
Across five Asian countries, men who report perpetration of violence (against intimate partners, against other women, or through gangs), or depression were more likely to self-report a lifetime history of STI. Buying economically...
motivated sex (through transactional sex or sex work) increased men’s risk in four countries. In two countries, more gender equitable men were less likely to report lifetime STI. These findings affirm perpetration of gender based violence and use of economic power as key determinants of men’s sexual health across contexts and affirm the need to promote gender transformative approaches to STI and HIV prevention among men.

**TUPE356**

**ANALYSING THE EFFECTS OF RELATIONSHIP LEVEL FACTORS AND PERCEIVED GENDER ATTITUDES AMONG FEMALE SEX WORKERS ON EXPERIENCE OF INTIMATE PARTNER VIOLENCE IN NORTH KARNATAKA, SOUTH INDIA**

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**Background:** Like other women in India, female sex workers (FSWs) frequently experience violence from their intimate partners (IPs) - a reality that increases their risk of acquiring HIV or other sexually transmitted infections (STIs). Though research has established many risk factors for intimate partner violence (IPV), existing studies have focused on the contribution of individual and community level factors to IPV risk. The effect of relationship-level factors and women’s gender attitudes on violence, is less studied.

**Methods:** Data from a cross-sectional study conducted in 2014 with 620 FSWs in Bagalkot district of Karnataka, India was used to analyse the effect of relationship characteristics and gender-related attitudes on the likelihood of experiencing severe violence. Severe violence was measured using a modified version of the Conflict Tactics Scale. Severe violence was defined as experiencing slapping, pushing or shoving “many times,” or any act of “hitting, kicking, biting, burning or using a sharp instrument.”

**Results:** Self-reported severe violence from their IPs in the past six months before the survey. In an intimate partner relationship, FSWs, who received social support from their IPs and had greater intimacy in their relationship were less likely to experience severe violence (AOR:0.49; p=0.05 & AOR:0.35; p=0.01, respectively) compared to their counterparts. Frequent alcohol use by a woman’s male partner increased her likelihood of experiencing violence almost 10-fold (AOR: 9.71; p<0.001). Additionally, a higher likelihood of experiencing severe violence was associated with the belief that men need sex and cannot control their urges (AOR: 1.96; p<0.05), and counter-intuitively with the belief that forcing a woman to have sex against her will is a sign of disrespect (AOR: 2.86; p< 0.05).

**Conclusions:** Relationship level factors along with gender related attitudes emerged as significant predictors of violence, even after adjusting for the effects of individual level variables. Interventions to reduce HIV risk among sex workers should focus on improving the quality of their intimate partnerships and on shifting attitudes regarding forced sex.

**TUPE357**

**SOCIAL NETWORK COHESION AMPLIFIES THE EFFECT OF NETWORK GENDER NORMS ON MEN’S PERPETRATION OF INTIMATE PARTNER VIOLENCE IN DAR ES SALAAM, TANZANIA**

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**Background:** Previous research has shown that social network-level gender norms are associated with men’s perpetration of intimate partner violence (IPV) in sub-Saharan Africa. Theory and empirical evidence suggests that the effect of these norms on men’s behavior may depend on the cohesion of the social networks. More cohesive networks, characterized by higher levels of trust and camaraderie, may also allow for faster flow of information.

This study drew on data from our on-going HIV and IPV prevention trial in Dar es Salaam, Tanzania with 1,106 sexually active men nested within 59 networks of randomly selected social groups called “camps.” The purpose of this study was to assess the degree to which the social cohesion of networks moderated the relationship between camp-level gender norms and men’s perpetration of physical IPV.

**Methods:** We modeled the interaction between network-level social cohesion and network-level gender norms on men’s past-year IPV perpetration using a 2-level hierarchical logistic regression model. IPV perpetration was assessed using an adapted version of the WHO violence against women instrument. Network-level gender norms were computed by averaging responses among camp members to a 5-item adapted version of the Gender Equitable Men Scale. Network-level social cohesion was measured by averaging response among camp members to a 5-item adapted social cohesion scale. Our model included individual-level controls (demographic characteristics, childhood violence exposure, alcohol use, and attitudes towards gender roles) and camp-level controls (camp size and years of operations).

**Results:** Network-level social cohesion significantly moderated the effect of network-level gender norms of the odds of perpetration. Examination of simple slopes revealed that the positive relationship between inequitable network-level gender norms and men’s perpetration was strongest in highly cohesive networks (β= .25, p=.04) and not significantly different from zero in networks with average or low levels of cohesion.

**Conclusions:** Interventions seeking to reduce IPV should consider efforts to simultaneously increase cohesion within networks while striving to make gender norms more equitable. Transforming gender norms may not be as effective in reducing men’s perpetration of IPV if it is done within socially fragmented networks compared to networks that are more cohesive.

**TUPE358**

**UNDERSTANDING AND ADDRESSING VIOLENCE AMONG KEY POPULATIONS TO OFFER EFFECTIVE HIV PROGRAMMING**

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**Background:** Violence affects HIV risk, testing uptake, and treatment adherence. Key populations (KPs) - men who have sex with men (MSM), people who inject drugs (PWID), sex workers (SWs), and transgender people - face high levels of violence, but relatively little is done on this important issue. Understanding local experiences of violence and potential connections between HIV and violence response services is critical.

**Methods:** As part of a gender analysis to inform KP programming in Kenya, we conducted a desk review and 59 qualitative, in-depth interviews with KP representatives, government officials, program managers and funders, and healthcare workers (HCWs). Questions covered types of violence that KPs experience, responses to violence, and potential connections between HIV and violence response services.

**Results:** Respondents described widespread violence against all KPs. Within KPs, MSM perceived to be the primarily anally receptive partner; transgender people commonly transitioning; and younger, new, and transgender SWs were believed to experience the most violence. Across all KPs, individuals living with HIV were perceived to be at greater risk. These findings are reinforced by the literature. Yet, respondents stated HCWs do not routinely screen for violence and do not provide counseling on violence, including when discussing strategies for disclosure with HIV-positive clients. Furthermore, all respondents agreed that most KP members are unlikely to report violence but desperately need access to violence response services.

**Conclusions:** Violence response services are a vital part of effective KP HIV programming, particularly because violence is often most common among KPs living with HIV or with the greatest HIV risk. Yet they are largely unavailable in Kenya and elsewhere. There are clear opportunities to build stronger HIV response services at CHCs and strengthen links between violence response and HIV services. Stronger violence response within HIV programs could protect KPs’ human rights while meeting KPs’ holistic needs.
Background: Across cultural settings the epidermics of HIV and intimate partner violence (IPV) are linked; violence victimization is highly prevalent among women with HIV. However, much of the research on violence and HIV is cross-sectional, and does not include information on violence perpetration from the perspective of men. This study investigated associations between male perpetration of physical and sexual IPV and select IPV risk and protective behaviors and outcomes in rural Uganda.

Methods: We used data from five rounds (2004-2013) of the Rakai Community Cohort Study (RCCS), an on-going HIV surveillance cohort that enrolls ~14,000 consenting men and women 15-49 years on a semi-annual basis in Rakai, Uganda. We categorized the male physical and the male sexual violence variables into three categories (no violence, only verbal, and physical), and considered the proportional odds models to estimate their association with HIV-related risk factors, while accounting for the repeated measurements of observations through robust estimation. The HIV-related risk factors include alcohol use before sex, inconsistent condom use, and number of sex partners, medical circumcision, and HIV prevalence. The male sample size is 21,157.

Results: A small percent of men (17.3%) reported only verbally abusing or shouting (n=3,664), and even fewer men (10.4%) reported physically abusing (e.g. pushing, slapping, punching) (n=2,208) their wife or primary partner in the past year. Few men reported using verbal (1%) or physical threats (3.1%) to force their partner to have sex with them (n=23; 650, respectively). Men who reported perpetrating physical abuse and/or men who reported sexual abuse were more likely to report drinking alcohol before sex, inconsistent condom use, and having a greater number of sexual partners in the past year and lifetime, relative to men who did not perpetrate IPV. Men committing IPV were less likely to have accessed male medical circumcision than men who did not report violence. IPV perpetration was not significantly associated with HIV status.

Conclusions: Men reporting acts of physical and sexual abuse also reported higher rates of HIV risk behaviors. HIV prevention efforts must also address prevention of IPV with men.

TUPE360

INTERVENTIONS IN THE PRIVATE: INTIMATE PARTNER VIOLENCE AND REDUCING VULNERABILITIES

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Background: The concept of crisis-response within public spaces to combat the vulnerability of female sex workers (FSWs) to violence, and in turn to reduce their vulnerability to HIV/AIDS infections, was a key addition to the HIV programme during phase I and II of the Avahan India AIDS Initiative. This strategy emphasized the ways of countering, negotiating and combating violence perpetrated by agents of law enforcement, and ensuring that the external environments surrounding the FSWs were secure and safe. This has, over the years, led to the assumption that FSWs feel safe and protected in private spaces.

Description: Under the aegis of the Phase III of the Avahan Initiative, the strategy on violence has included prevention in addition to redressal and has made efforts to understand the current experience of violence from different people. The Avahan Initiative looks to 84 Community Organizations (COs) in five states of India to implement these approaches.

Individual data on violence faced indicates that of the total number of incidents faced in the previous six months, 41.49% are incidents of intimate partner violence. Out of this, only 58.41% incidents were reported (to authorities or peers). The data gives vital insights: firstly, violence has changed spheres and, this calls for interven- tion based on whether men reported perpetration of IPV before the beginning of the study. Among these men, the intervention showed no effect, and the effects of alcohol and non-partner sexual violence on increasing risk were significantly attenuated.

Conclusions: This analysis affirms that many of the risk factors hypothesized from cross-sectional research lead to increased perpetration of IPV among young men, specifically: childhood trauma, alcohol problems, depression, and sexual violence against non-partners. It also affirms the preventive benefit of the Stepping Stones intervention. However, it reveals significant differences in patterns of risk and benef- efit depending on whether men reported perpetration of IPV before the beginning of the study. This affirms the urgent necessity of effective primary prevention of IPV among young men, and further suggests that new strategies are required to prevent on-going perpetration among young men who have already engaged in IPV.
BACKGROUND: Worldwide, women experience high rates of violence related to endured gender inequities. This violence is exacerbated for women with HIV, who experience HIV-related stigma among other forms of marginalization. We assessed the prevalence of, and factors associated with, experiencing violence in adulthood among women with HIV enrolled in a Canadian cohort.

METHODS: Baseline survey data were analyzed for women with HIV (≥16 years) enrolled in a community-based research cohort study in British Columbia (BC), Ontario (ON), and Quebec (QC). Violence was assessed through self-reported experiences of physical, sexual, verbal, or emotional violence in adulthood (>16 years). Multivariable logistic regression was used to identify factors associated with having experienced any form of violence in adulthood.

RESULTS: Of 1322 participants, 25% (BC, 50%, ON, 25%-QC) the median age was 43 (IQR: 36-51) years and 22% identified as Indigenous, 28% African, Caribbean or Black (ACB), 42% white/Caucasian, and 8% other. Most (80%) participants reported ever experiencing any adulthood violence, including physical (62%), sexual (45%), verbal (74%), and emotional (46%). 1004 participants with complete data on violence were included in the multivariable analysis. Factors significantly associated with having experienced any adulthood violence included: recreational drug use in the past 3 months (AOR: 17.89, 95% CI: 4.29-74.59); post-traumatic stress disorder (PTSD) (AOR: 2.27, 95% CI: 1.49-3.47); gender discrimination (AOR: 1.05, 95% CI: 1.02-1.07); and age (AOR: 1.02, 95% CI: 1.00-1.04). Participants taking anti-retroviral therapy (ART) were more likely to report adulthood violence.

CONCLUSIONS: Four out of five women with HIV in this study experienced violence in adulthood, with high rates of physical and sexual violence. Experiences of adulthood violence were associated with PTSD symptoms and recreational drug use, highlighting the need for trauma-informed and harm reduction approaches to engage women in the care continuum. Women who experienced gender discrimination and other forms of social exclusion, including women who use drugs and Indigenous women, reported disproportionate rates of violence. Intersectional approaches that address gender discrimination are crucial to reduce gender-based violence experienced by women with HIV.

DESCRIPTION: The campaign utilised a multi-pronged approach, combining empowerment sessions, media, person-to-person and community interactions around SA of girls and HIV. 33 survivors of CSA participated in an empowerment programme. They received counselling, learnt about gender and HIV issues and communication skills. They developed digital stories on their experience and HIV and the diary of one survivor was published. Between October 2014 and October 2015, a community and media intervention was launched using the material produced to address the SA of girls as an HIV prevention strategy.

LESSONS LEARNED: The campaign highlighted the value of community mobilisation around SA and HIV issues. It resulted in 4961 persons reached in community forums, schools and one-on-one interactions at the community level; 25 articles published in local newspapers; 8 radio and 7 television interviews and two documentaries aired on local television.

CONCLUSIONS/NEXT STEPS: CSA is increasing in Jamaica. Girls aged 15 - 17 years account for 63% of all SA cases reported to the Office of the Children’s Registry. This co-relates with the trends in the national HIV and AIDS data where girls aged 14 - 19 years old are four times more at risk of contracting HIV than boys the same age. The high prevalence of both HIV and sexual abuse of girls points to the need to bridge programmatic responses to address HIV.
of 35% among antenatal women; its rape prevalence has not previously been re-
ported.
HIV transmission is higher during forced sex (particularly child sexual abuse) than consensual sex, which can exacerbate transmission in areas with concurrent epi-
demics of HIV and rape. Here we quantify prevalence of sexual violence and rape in Rustenburg.

Methods: In this cluster randomized household survey fieldworkers collected infor-
mation from women aged 18-49 on their experience of rape, as well as associated behaviors and attitudes. The study population and prevalence of rape (forced sex or sexual acts) are described.

Results: The average age of participants (n=1,123) was 32 years and 44% had com-
pleted secondary school or higher. The majority of women grew-up in South Africa; however, 62% grew-up in a rural area/village outside of the Rustenburg Municipal-
ity.

Life-time prevalence of rape of 33%, with 10% experiencing at least one rape by a sexual partner, and 8% experiencing at least one rape by a non-sexual partner before the age of 15 years. The reported incidence of rape was 53 per 1000 person
years.

Among those who had been raped, 17% reported seeking legal services after a previ-
ous experience of rape.

Conclusions: We report an extremely high prevalence of sexual violence, including rape by partners, non-partners, and among children in the platinum belt of Rusten-
burg, making women vulnerable to negative health outcomes, including HIV acquis-
tion. Reported access to legal and comprehensive medical services is particularly poor in this highly vulnerable population, highlighting the need for improved service delivery.

The HIV/AIDS and rape epidemics share similar risk factors and challenges to access, exacerbating harm. A coordinated local and national approach to the prevention, management, and planning of both is necessary.

TUPE366
ASSOCIATIONS BETWEEN ADOLESCENT EXPERIENCES OF VIOLENCE IN MALAWI AND GENDER-BASED VIOLENT ATTITUDES AND BEHAVIOURS

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Background: Emotional, physical, and sexual adolescent maltreatment in the home or at school have been found to be key predictors of gender-based-violence (GBV).

GBV has strong links to the HIV epidemic in sub-Saharan Africa. The objective of this research was to measure the prevalence of exposure to violence among Malawian adolescents, and to test the hypotheses that such exposures are associated with prevalent gender-based violent attitudes and behaviours, which continues the cycle of violence and increased HIV transmission.

Methods: We analysed questionnaires collected from 561 primary school pupils, aged 10-19, in 1 urban and 2 rural districts of Malawi. Participants were 281 girls and 280 boys who assented following caregiver consent. Using SAS, the data was
stratified by gender, and logistic regression analysis was performed, adjusting for sociodemographic differences in the final parsimonious models.

Results: Both girls and boys had witnessed domestic violence (28.5% & 29.6%), experienced emotional abuse at home (23.1% & 22.9%), physical abuse at home (28.1% & 30.4%), physical abuse at school (42.4% & 36.4%), and bullying (33.8% & 39.6%).

Girls who internalized violent attitudes towards women were more likely to have experienced emotional abuse (OR 2.1), and physical abuse at school (OR 1.7). Con-
doning rape was associated with physical abuse at school (OR 1.9). Participation in bullying was associated with experiencing emotional abuse at home (OR 4.5). Among boys, violent attitudes towards women and condoming rape were not asso-
ciated with violence exposure. Participation in bullying was associated with prior experience of being bullied (OR 2.9), and physical abuse at school (OR 2.7).

Conclusions: These results indicate that - among girls, but not boys - internalized viol-
ent attitudes towards women and acceptance of rape are linked to violence expo-
sure in homes and schools. The findings can inform programmes designed to reduce violence victimization among Malawian girls. Some effective interventions could be
microfinance loans, programs designed to reduce sexual violence and IPV in homes, parenting programmes, and enforcing strict prohibitive measures on physical vio-
lence and punishments in schools. All of these programs could be effective in re-
ducing gender-based-violence and impeding its contribution to new HIV infections.

TUPE367
INTERPERSONAL AND STRUCTURAL FACTORS OF NON-CONDOM USE WITH INTIMATE PARTNERS AMONG SEX WORKERS IN CONFLICT-AFFECTED NORTHERN UGANDA

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Background: Women sex workers (SWs) in sub-Saharan Africa have among the high-
est HIV burden, and similar pregnancy intentions to the general population of wom-
en of reproductive age, yet we know less about male condom use with intimate non-paying partners with than clients. Understanding the social and structural con-
texts of non-condom use in intimate partnerships is critical given shared pathways for HIV and pregnancy, particularly in the absence of other biomedical interventions (e.g. antiretroviral therapy, and hormonal contraceptives).

Methods: Drawing on a community-based project in partnership with The AIDS Sup-
port Organization (TASO) Gulu, SWs, and other community organizations, we con-
ducted interview-administered questionnaires embedded in SW/peer-led outreach to bars, hotels, and truck stops across Gulu, and voluntary HIV testing with 400 women SWs between 2011 and 2012. Multivariable logistic regression was used to examine factors associated with non-condom use at last sex with SWs’ main/most recent intimate partner.

Results: Of the 379 women SWs with an intimate partner, 150 (39.6%) reported non-condom use at last sex with their most recent intimate partner. The median age of women was 21 years (IQR= 19.0 - 26.0), with 63.3% having completed less than primary education. One-third (32.5%) were living with HIV, and the majority (69.9%), were mothers supporting one or more children. In multivariable analysis, having low sexual relationship power (Adjusted Odds Ratio (AOR) 3.40, 95% Confi-
dence Interval (CI) 1.05 - 2.68), harassment by agents of the state (police or military) (AOR 1.96, 95% CI 1.23 - 3.15), and hormonal contraceptive use (AOR 1.68, 95% CI 1.77 - 6.53), were independently associated with non-condom use with intimate partners.

Conclusions: While non-condom use may be reflective of pregnancy intentions and a higher degree of intimacy within intimate partnerships, this study highlights how gendered power dynamics, both at the interpersonal (low sexual power and decision-making with intimate partners) and structural levels (harassment by policy and military), shape condom use with intimate partners of SWs in a post-conflict setting. Policy reforms to ensure the protection of SWs’ health and human rights, and monitoring and redress of abuse in conflict-settings remain critical, alongside gender transformative approaches to HIV prevention, treatment, and care.

MEDIA, CULTURAL AND RELIGIOUS REPRESENTATIONS OF HIV AND AIDS

TUPE368
THE NEWS MEDIA DISCOURSE SURROUNDING HIV IN THE U.S. DEEP SOUTH: NEGATIVITY, FEAR OF CONTAGION, AND STIGMATIZATION

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Background: Thirty years after the first reported HIV case, the overall number of new US diagnoses continues to fall. As a result, the media focus on HIV has markedly
no longer an urgent health issue to address. American news media has also experi-
enced a rapid transformation through changes in technology impacting the public information environment. These changes create a pressing need for advocates to understand how HIV is discussed and portrayed in the public discourse.

Methods: Drawing on anthropological tools, this study conducted textual analysis of 161 news media stories surrounding seven Deep South states (where HIV inci-
derence rate is highest) from 2010-2014 found through Google searches, downloaded and coded. There was a minimum of 20 articles per state. We coded for media con-
tent, level of interactivity, and content of the stories regarding ideology, stigmatizing and emotional attributes, and policy focus.

Results: Only 7% of the articles were on the “front page.” Over 26% of the articles were written due to the release of a data set. In terms of policies, 17% discussed criminalization. The shorter the articles in terms of word length, the more conserva-
tive they were rated by the coders (on a scale of 1 being extremely liberal and 7 ex-
tremely conservative) and those data-driven articles were rated as more conserva-
tive (M =3.86). A plurality of the articles (42%) were negative in tone. The top coded
emotions were: skepticism, fear and contempt. In South Carolina (where there are active HIV-criminalization cases), there were more references in the articles to the contagion/danger posed to others by HIV. Lastly, ostracization was often noted in the HIV-related articles as a repercussion. Overall, 80% of the articles allowed for comments to be posted; of which 56% had posted comments. The range of article-shares was from 0 to 11,900.

Conclusions: Simple evidence shows that media articles help shape attitudes and beliefs, educate the public and can help mold policies. These study findings make it imperative that we continually educate media on HIV and stigma as we also work on the ground with high-risk populations.

EXPERIENCES AND IMPACTS OF HIV-RELATED STIGMA

TUPE369
‘WE DON’T WANT TO BE NOTICED COLLECTING DRUGS’: THE EFFECTS OF STIGMA AND DISCRIMINATION ON ADHERENCE TO MEDICATION AMONGST PEOPLE LIVING WITH HIV IN TIV LAND, NORTH CENTRAL NIGERIA

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Background: In spite of recognising stigma as a factor impeding the public utilisation of HIV counselling, testing, and treatment services in Nigeria, gaps in knowledge still exist concerning the impact of stigma and discrimination on adherence to medication amongst people living with HIV (PLWH). This study examines the impact of stigma and discrimination on adherence to medication amongst people living with HIV in Nigeria.

Methods: A sample of 1,621 (864 women; 757 men) respondents was collected from 2 clinics (Mikar, Alliade) and other 2 locations (Jovokundan; Udeh) using multi-stage and purposive sampling methods. An eight page questionnaire with closed and open ended questions was used for quantitative data collection amongst 805 HIV seropositive clinic attendees and 796 HIV seronegative individuals. SSPS version 21 was used for quantitative data analysis. Twenty (20) respondents (10 HIV seropositive; 10 HIV seronegative) participated in in-depth interviews which were recorded.

Results: They were 46.3% men and 53.7% women. Those between 30 and 34 years were 23.4%, while those between the ages of 25 and 29 years were 21.9%. Approximately 55% were married, 17.9% were either divorced or separated, while the single and those cohabiting were 26.2% and 0.6% respectively. Generally, their income was low, 70.7% were earning less than N25,000 (approximately $125 USD) per month. All respondents were on drugs. Some of the HIV patients are isolated, they sit, eat and drink water in personalised seats and plates; uncompromising statements are made about them. In reaction to stigma and discriminations, some of them avoid public places, if possible, they travel long distances away from their immediate community to collect drugs, to avoid being noticed around the centers. Thus, they sometimes miss taking drugs regularly as prescribed, suffer depression and die.

Conclusions: Not only that stigma and discrimination hinder public utilisation of HIV counselling, testing and treatment services, it impede adherence to medication amongst people living with HIV in Nigeria. More efforts should be made to create awareness to reduce stigma and discrimination of HIV patients, while augmenting their income to overcome the challenges of visiting far health centers to collect drugs, should the need arise.

TUPE370
THE PREDICTIVE POWER OF STIGMA ON SUBSTANCE USE AND SEXUAL RISK BEHAVIORS AMONG PEOPLE LIVING WITH HIV/AIDS IN SOUTHWEST CHINA

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Background: HIV stigma against people living with HIV/AIDS (PLWHA) is prevalent. The impact of HIV stigma has various effects on their risk behaviors during their sexual episodes as well as on substance use among PLWHA. In this study, we explored the predictive power of HIV stigma on substance use and sexual risk behaviors among male and female PLWHA in China.

Methods: A total of 2987 PLWHA were recruited via a pre-established sampling scheme. Approximately 10% of cases were selected from top 12 study sites in terms of HIV cases in Guangxi. In order to explore the predictive power of the stigma on risk behaviors among PLWHA, we first categorized the score of HIV stigma based upon its quantiles. We examined demographics, psychosocial wellbeing and risk behaviors across these quantiles by employing Chi-square (for categorical variables) and ANOVA (for continuous variables) with trend tests. We further assessed the predictive power of HIV stigma on risk behaviors (substance use and risky sexual behaviors) using restricted cubic splines in the multivariate regression analyses. A gender-specific stratum analyses were also conducted to explore the predictive power of HIV stigma between male and female PLWHA.

Results: The bivariate analysis and trend tests revealed that both psychosocial distress and behaviors of substance use increased significantly among PLWHA with higher stigma. The restricted cubic spline model indicated a possible threshold for the risk of smoking and drug use among PLWHA. PLWHA with 50th percentile stigma score were more likely to report smoking (β=0.08, 95%CI=0.02, 0.14), and drug use (β=0.10, 95%CI=0.01, 0.19). The highest percentile of HIV stigma only marginally increased the numbers of sex acts (β=0.60, 95%CI=-0.03, 1.23) and sexual partners (β=0.77, 95%CI=0.00, 1.53).

Conclusions: Our analysis found HIV stigma had a stronger predictive power on substance use, but not a good predictor for non-sexual risk behaviors. Contraception promotion programs should target to PLWHA with higher stigma for their substance use problems. Further research should be conducted to explore risk factors for sexual risk behaviors among PLWHA to eliminate the potential of them as the source of the HIV transmission in China as well as other settings worldwide.

TUPE371
RESOLVED AND UNRESOLVED ISSUES AMONG PEOPLE LIVING WITH HIV IN JAPAN AFTER 10 YEARS OF ADVANCEMENT IN MEDICAL ENVIRONMENT: RESULTS FROM NATIONWIDE MULTICENTER SURVEYS FROM 2003 TO 2013

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Background: Advances in ART over the past 10 years have changed the recuperation of people living with HIV (PLHIV) in Japan drastically. Yet, has “Living with HIV” really been easier? Nationwide research on the quality of life of PLHIV has been conducted every five years. The latest one was done in 2013, and a comparison was made in order to track a trend in the living conditions of PLHIV since 2003.

Methods: Anonymous, self-completed questionnaires were distributed to 2,473 outpatients at 31 leading AIDS care hospitals in Japan. The survey period was from July 2013 to April 2014. The same method was adopted in the 2003 (783 outpatients at 5 hospitals) and 2008 (1,813 outpatients at 33 hospitals) studies.

Results: Among 1,469 responses returned by mail, 94.1% were men and 5.1% were women in 2013. Response rate was 59.4% (72.3% in 2003 and 66.4% in 2008). There is a significant increase in the rate of once-daily dosage of HIV medication (from 3.8% in 2003 to 56.6% in 2013) and once every 2-3 months of healthcare provider visits (from 37.2% to 73.0%). More people showed intentions to work (37.2% in 2003, 49.1% in 2008, and 58.7% in 2013 said “Do not want limitations on the way of working”). The ratio of non-working population of PLHIV stayed at the same level over the years (20-25%). The percentage of PLHIV who left former job following positive HIV diagnosis was 37.6% in 2003, 42.0% in 2008, and 40.5% in 2013. In 2003, 27.5% had come out as HIV positive at work, yet the rate slightly decreased to 21.0% in 2013. The 2013 study showed that 73.4% experienced “thinking of an excuse for not disclosing HIV status” and 10.8% “unwillingly leaving their job due to HIV.”

Conclusions: The treatment burden has been greatly alleviated by therapeutic advances. Nevertheless, there are still stressors that hinder PLHIV from participating fully in society. Some people try to solve workplace issues through changing professions.

TUPE372
RESEARCH ON SUPPORT FOR PLHIV AND DU IN REGIONAL COMMUNITIES

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Background: HIV-stigma impacts HIV-infected adolescents’ psychosocial development and how they navigate their social surroundings. We sought to better understand the experiences of HIV-infected adolescents in western Kenya with HIV-stigma and to subsequently develop culturally sensitive films to reflect those experiences.

Methods: A US and Kenyan collaborative team conducted a qualitative study investigating the social and cultural impact of HIV-stigma on adolescents living with HIV. Our participatory research strategy included focus group discussions with HIV-infected adolescents and with caregivers of children with HIV, followed by in-depth interviews with participants, including HIV-infected adolescents and various community members in Eldoret, a mid-sized town in western Kenya (e.g. shop owners, pastors, teachers). Interviews, conducted in Kiswahili or English, were translated and transcribed. Applied thematic analysis was used to identify themes reflecting the lived experience of stigma. A participatory advisory board, comprised of research investigators, HIV disclosure counselors, and HIV-infected adolescents, drew upon these culturally contextualized themes to create narrative scripts for films focused on HIV-stigma.

Results: The participatory advisory board generated 4 film narratives from the in-depth interview transcripts. Major themes of HIV-stigma included enacted stigma from community social systems, including public ridicule, shaming, and shunning for families and adolescents living with HIV. HIV-infected adolescents shared personal narratives of perceived HIV-stigma in school and college environments, and experiences of enacted stigma from caregivers and family members. Filming and producing the films was conducted in July 2015, followed by in-depth interviews with participants, including HIV-infected adolescents and various community members in Eldoret, a mid-sized town in western Kenya (e.g. shop owners, pastors, teachers). Interviews, conducted in Kiswahili or English, were translated and transcribed. Applied thematic analysis was used to identify themes reflecting the lived experience of stigma. A participatory advisory board, comprised of research investigators, HIV disclosure counselors, and HIV-infected adolescents, drew upon these culturally contextualized themes to create narrative scripts for films focused on HIV-stigma.

Conclusions: Using a context-focused methodology and community participatory approach, we developed four unique films showcasing the impact of HIV-stigma in western Kenya. With planned use in clinical, counseling, and community-based settings, these films could mitigate the impact of HIV-stigma and serve as tools to encourage dialogue and openness about HIV.
Background: The ART rollout is associated with reductions in HIV-related stigma, but pathways through which this occurs are poorly understood. Studies have focused on individual psychosocial measures, with less attention to understanding processes through which rapid diffusion of ART uptake affects changes in community-level attitudes and social norms.

Methods: We used longitudinal qualitative data to examine evidence for change in HIV-related stigma, and its pathways, in eight communities participating in an on-going test-and-treat trial in Kenya and Uganda (SEARCH, NCT#01864603). SEARCH aimed to increase uptake and normalize HIV testing and care through community-led, multi-disease and patient-centered approaches. Baseline and year one data were collected using focus group discussions (n=18 groups) with participants at community health campaigns, and in-depth interviews with care providers (n=50), community leaders (n=32) and members (n=112) of eight communities. Data were analyzed using grounded theoretical approaches and Atlas.ti software.

Results: A majority of those interviewed one year after SEARCH implementation reported feeling that HIV-related stigma had decreased in communities ("people are not fearful anymore"). Longitudinal analyses revealed improved attitudes towards people living with HIV/AIDS (PLWHA), reduced anticipated stigma and increasingly open discussions about HIV. However, there were reports of enacted stigma against some PLWHA following status disclosure, particularly women. Perceptions that stigma had reduced elicited new anxieties ("now you cannot identify the infected"); and "there is less fear for HIV... that causes us to worry, more people are going to get infected..."). As testing saturated communities, many HIV-positive individuals were newly emboldened to disclose their status ("these days you just take your drugs in the open..."). As more individuals experienced benefits of ART they engaged in advocating for others to initiate ART. Those who did not feel safe to disclose were relieved that taking ART permitted them to more effectively conceal their status.

Conclusions: Social norms and attitudes related to HIV are rapidly changing in communities participating in a large test-and-treat trial. Benefits of ART embolden HIV-positive individuals to openly engage in care. These ‘advocates’ for ART are a key social influence on stigma reduction, and should be supported, as they are already playing a critical role in expanding ART uptake.
TUPE0378
EXPERIENCES OF STIGMA AGAINST PARTICIPANTS IN A NETWORK INTERVENTION TO REDUCE HIV TRANSMISSION FROM RECENTLY INFECTED PEOPLE IN ATHENS. GREECE AND ODESSA, UKRAINE

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Background: Interventions to prevent HIV transmission by working with HIV-infected people and their networks may provoke stigma against participants if their infection statuses are inferred or disclosed. We examine the extent to which participants in such an intervention experienced stigma during or after their participation in the program in two sites with large epidemics.

Methods: Participants and controls in an intervention targeting recently infected individuals (“recents”) and their sexual and injection networks were interviewed about their experiences of stigma and discrimination in follow-up interviews six months after entering the study. This intervention recruited recents’ network members, and distributed community alerts among networks and at venues where recent reports indicating and/or meeting sex partners. These alerts indicated the presence of recents in the network, educated about protection from transmission, and urged recipients to support recents. Stigma items were operationalized as experiences of negative, stigmatizing behaviors like nasty comments, threats, attacks, or exclusions from social gatherings (4 items, Cronbach’s α = 0.643) and experiences of positive, helping behaviors from others who thought they were recently infected (3 items, α = 0.675). Responses were compared by intervention site, by sex, and by study arm. Fifty-seven percent of participants reported that they injected drugs. Results:

<table>
<thead>
<tr>
<th></th>
<th>Total (N = 610)</th>
<th>Athens (N = 283)</th>
<th>Odessa (N = 327)</th>
<th>Male (N = 466)</th>
<th>Female (N = 144)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of types of stigma experienced (0-4)</td>
<td>0.18 (S.D. = 0.56) Min = 0; Max = 4</td>
<td>0.28 (S.D. = 0.75) Min = 0; Max = 4</td>
<td>0.09 (S.D. = 0.28) Min = 0; Max = 4</td>
<td>0.18 (S.D. = 0.55) Min = 0; Max = 4</td>
<td>0.17 (S.D. = 0.62) Min = 0; Max = 4</td>
</tr>
<tr>
<td>Proportion of participants experiencing at least one stigmatizing event (out of 4)</td>
<td>12.3% 16.6% 8.6% 13.1% 9.7%</td>
<td>12.3% 16.6% 8.6% 13.1% 9.7%</td>
<td>12.3% 16.6% 8.6% 13.1% 9.7%</td>
<td>12.3% 16.6% 8.6% 13.1% 9.7%</td>
<td>12.3% 16.6% 8.6% 13.1% 9.7%</td>
</tr>
<tr>
<td>Mean number of types of positive/helping behaviors experienced (0-3)</td>
<td>0.77 (S.D. = 1.00) Min = 0; Max = 3</td>
<td>0.41 (S.D. = 0.67) Min = 0; Max = 3</td>
<td>1.09 (S.D. = 1.00) Min = 0; Max = 3</td>
<td>0.71 (S.D. = 0.99) Min = 0; Max = 3</td>
<td>0.96 (S.D. = 1.02) Min = 0; Max = 3</td>
</tr>
<tr>
<td>Proportion of participants experiencing at least one positive/helping event (out of 3)</td>
<td>39.3% 20.8% 55.4% 36.3% 49.3%</td>
<td>39.3% 20.8% 55.4% 36.3% 49.3%</td>
<td>39.3% 20.8% 55.4% 36.3% 49.3%</td>
<td>39.3% 20.8% 55.4% 36.3% 49.3%</td>
<td>39.3% 20.8% 55.4% 36.3% 49.3%</td>
</tr>
</tbody>
</table>

Results:
Reports of stigma were relatively infrequent. Frequencies of positive experiences were higher. Mean number of types of stigma experienced was less than 0.3 for all groups. Odessa participants reported fewer stigma experiences (t=4.1, p<.0005), and more helping experiences (t=2.6, p=0.01). Female reported more helping experiences (t=2.6; p<.0005). Nine individuals (all in Athens) reported being threatened or attacked. Field investigations determined these incidents were not caused by the intervention. Recent and their networks did not differ from controls on frequency of negative stigma experiences.

Conclusions: This intervention does not appear to present an unduly high risk of experiencing stigma related to “recent” status. It did seem to elicit support from others. Differences between intervention sites should be further examined to determine how local conditions affect stigma.

TUPE0379
COMMUNITY SAVING SCHEMES: A SUSTAINABLE EMPOWERMENT MECHANISM FOR PEOPLE LIVING WITH HIV IN MITYANA DISTRICT, UGANDA

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Background: While access to microfinance services is still a challenge for many Ugandans, the barriers for PLHIV is compounded by stigma and discriminatory practices and requirements manifested in form like difficulty in securing loan guarantors, lack of collateral by orphans and widows, perceptions by MFIs that PLHIV have little time to live among other according to study conducted by NAFOPHANU, AMFIU and ACORD. To overcome this discrimination PLHIV formed community saving schemes to create their own basket of credit to loan amongst themselves

Description: This started out as a pilot by NAFOPHANU in Mityana district. 15 groups were identified, trained and supported to start income generating enterprises including animal or crop husbandry, stone quarrying, poultry and bricklaying as a revolving scheme. From the income, they invested into saving schemes to create a pool of credit. Not only does this improve the social standing and trust plus at a very small interest to steadily expand the fund

Lessons learned: 1. 13 have successfully formed vibrant savings schemes. One group in Malangala village started with 20 members but currently comprises of 187 members
2. The programme has enabled communities to appreciate the potential of PLHIV. With almost half of the co-save group membership comprising HIV negative community members, there is reduced incidences of stigma and discrimination for PLHIV in public life.
3. Communities are alive to the potential they hold to raise credit amongst themselves to invest in their development. The meagre investments of groups have grown to between 7 and 15 million shillings credit funds to date.
4. The mechanism contributed to PLHIV resource base and many have been able to finance treatment options that are not freely available in the public health care centers.
5. Microfinance institutions have now expressed interest to offer the saving groups and their individual members saving, investment and loan facilities; a reversal in their earlier stance

Conclusions/Next steps: Reducing the economic vulnerability of PLHIV is critical in breaking the stigma and discrimination. Improving financial standing of PLHIV is essential for positive living and dignity.

STIGMA AND DISCRIMINATION IN SPECIFIC SETTINGS, INCLUDING FAMILY, COMMUNITY, WORK PLACE, EDUCATION AND HEALTHCARE SETTINGS

TUPE0380
THE SOCIAL CONSTRUCTION OF HIV STIGMA AND SEXUAL HEALTH SEEKING BEHAVIOUR AMONG BLACK SUB-SAHARAN AFRICAN (BSSA) COMMUNITIES IN THE ENGLISH CITY OF BIRMINGHAM

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Background: There is a lot of quantitative research information in the public domain on HIV and stigma including sexual health seeking behavior. This statistical information has shown that BSSA communities present late with HIV and sexual transmitted infections owing to HIV stigma (Drummond, 2008). Currently there is very limited published qualitative information on the factors influencing the social construction of HIV stigma and sexual health seeking behavior among BSSA communities.

Methods: This research focused on the BSSA communities in the English town of Birmingham. A qualitative methodology was used to identify and explore the key factors influencing the social construction of HIV stigma and sexual health seeking behaviors among BSSA communities. Screaming silences provided the theoretical underpinning for this study which sits in some aspects of feminism, criticalist and ethnicities based approaches (Serrant, 2010).

Results: The findings from this study were reviewed in light of current sexual health policies and strategies to consider how sexual health professionals and services can best meet the health care needs of BSSA communities. The institution of marriage,
healthcare providers are required. Interventions to challenge HIV-related stigma, 
ing clinics in
Canada, 4
Jamaica
Stigma and discrimination in HIV testing services: exploring experiences
TUPED381
health seeking behaviour among BSSA communities.

### Background:
Stigma and discrimination reduce access to HIV testing. Men who have sex with men (MSM) and transgender women experience pervasive human rights violations in Jamaica. Young MSM in Jamaica have the highest HIV infection rates in the Caribbean. There is little information about HIV among transgender women in Jamaica, who are overrepresented in the Caribbean epidemic. HIV-related stigma is a reported barrier to HIV testing among Jamaica’s general population, yet little is known of HIV testing among MSM and transgender women in Jamaica. We explored HIV testing experiences among MSM and transgender youth in Kingston, Jamaica.

### Methods:
We implemented a community-based research project in collaboration with HIV and lesbian, gay, bisexual and transgender (LGBT) agencies and community groups in Kingston. We conducted in-depth individual semi-structured interviews with young (18-29 years old) MSM (n=20), transgender women (n=20), and key informants (n=13). We also held focus groups with young transgender women (n=8) and MSM (n=10). We conducted narrative thematic analysis to identify, analyze and report themes.

### Results:
Findings revealed HIV testing experiences included: confidentiality breach; healthcare provider mistreatment; and HIV-related stigma. Participants discussed how physical and emotional experiences among MSM and transgender youth in Jamaica.

### Conclusions:
Findings suggest the need for policy and practice changes in HIV testing clinics in Jamaica. Restructuring physical clinical spaces and anti-discrimination training for healthcare providers are required. Interventions to challenge HIV-related stigma, homophobia and transphobia in healthcare settings can enhance access to the HIV prevention cascade among MSM and transgender youth in Jamaica.

### TUPE382
THE LONG ROAD TO LIFE INSURANCE
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**Background:** The conclusion of a life insurance policy can have various aims: providing a measure of financial security for the partner/family if the insured passes away; economic help in old age; protection of mortgages.

**Description:** In 2013 the re-insurance company SwissRe carried out a study about the insurability of HIV-positive people treated with antiretroviral therapy. It was a collaborative analysis of HIV cohort studies throughout Europe. The study concluded that over 50% of those who are HIV-positive may be eligible for life insurance.

**Lessons learned:** Although the re-insurer specified in its study the conditions under which an HIV-positive person can be insured, the insurers inquired did not agree to provide life insurance to people living with HIV, even if they complied with the conditions mentioned above. After the sobering feedback, the Swiss AIDS Federation established a cooperation with an insurance broker. He clarifies with the clients if the conditions presented by SwissRe are met and submits the application along with a medical certificate to the insurance companies.

**Conclusions/Next steps:** By interposing an insurance broker, several insurers agreed to make a life insurance contract. In a next step, the insurance companies will be convinced to again to detect whether they are going to change their negative attitude considering the fact that some insurance companies now agree to supply life insurance to people living with HIV.

### TUPE383
DISCRIMINATION IN HEALTHCARE SETTINGS AGAINST PLHIV IN MYANMAR
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**Background:** Marginalized communities across Asia face myriad human rights violations due to stigma, discrimination and weak or egregious policy and legal frameworks that violate or fail to protect their rights. Communities face widespread social stigma, legislative and policy restrictions, and punitive legal frameworks that result in rights violation, including discrimination at health care settings.

**Description:** To address and end discrimination against PLHIV and KP at healthcare setting in Asia, Myanmar Positive Group was selected as one of the CBOs from Myanmar to participate in Asia Catalyst’s Regional Human Rights Training Program. The program included sub-grant for documenting rights violation against PLHIV at healthcare setting. MPG together with Aye Myanmar Association conducted 40 in-depth interviews in 5 provinces in Myanmar.

**Lessons learned:** Various forms of discrimination at health care settings were documented in Myanmar. PLHIV were denied services following disclosure and were asked to find other service providers. When services were provided, PLHIV faced differential treatments as a direct result of their HIV status. This included forced additional expenses, publicly humiliating treatment, practices that breach privacy and confidentiality such as segregated waiting areas and bed spaces. Furthermore, service providers were also found deliberately engaging in unnecessary disclosure of the HIV status of the patient without consent. Concerning findings also included practices of coercive sterilization of Women living with HIV seeking pregnancy related services. These negative experiences discouraged PLHIV to seek timely health services resulting into sub-standard physical health and poor psychological state including added financial burden.

**Conclusions/Next steps:** The evidence clearly demonstrates that PLHIV and key population are not able to enjoy rights to health and non-discrimination enshrined in the Constitution of Myanmar. Ministry of health must take steps to address this and ensure zero discrimination at health care centers against PLHIV. MPG is mobilizing...
Background: Integrated HIV-care and treatment and sexual and reproductive health (SRH) services are a key priority as part of a holistic response to adolescent health. Research has tended to focus on supply-side service delivery issues (such as creating adolescent-friendly spaces) and understanding how young people navigate their way through an integrated system. We explored experiences of young people living with HIV (YPLWH) accessing SRH services.

Methods: YPLWH (n=8) were trained as peer researchers to undertake qualitative interviews with their peers (aged 16-25) in Zimbabwe (n=24) and South Africa (n=24). There were equal numbers of young men and women. In Zimbabwe, participants were recruited from support groups of YPLWH; in South Africa, participants on treatment were recruited through clinics. Discussions focused on access to SRH information and services. English language transcripts were thematically analysed.

Results: Young people in both Zimbabwe and South Africa expressed reluctance to access SRH information and supplies through their normal HIV clinics. Participants placed high value on anonymity while seeking SRH services so as to avoid potential judgement by their regular HIV providers and other community members attending the same clinic where they accessed care, even if they had not experienced this previously. This was primarily in response to their desire to retain a positive relationship with their primary healthcare worker who supported their HIV treatment and care. They felt raising issues of sex and SRH could break this relationship. A number of participants described paying to ensure secrecy around SRH seeking behaviour manifested itself in two ways: 1) buying condoms as opposed to collecting them for free at a clinic and 2) seeking out SRH services, information and commodities at alternative clinics, even though this involved extra costs for transport and user fees.

Conclusions: YPLWH demonstrated high levels of agency in ensuring privacy and avoid incurring censorship and discrimination while seeking access SRH information and commodities. Values clarification training for HIV healthcare workers is recommended and alternative innovative models of SRH/HIV integration should be considered.

TUPE386
COMMUNITY RESPONSE TO HIV-RELATED STIGMA AMONG HEALTHCARE PROVIDERS IN UKRAINE: ALL-UKRAINIAN NETWORK MODEL

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Background: HIV-stigma is pervasive in US-based healthcare settings as well as abroad. People living with HIV (PLH) report stigmatization from healthcare providers to providers appropriate ethical capacity building to staff at all levels on discrimination and rights to health of PLH in Myanmar.

Results: Participants expressed that negative historical depictions of HIV/AIDS and unequal provider-patient power dynamics were responsible for stigma and subsequently led to fears of contagion, high variability in medical education, and changes in institutional norms. Respondents also noted that initial portrayals of HIV as a “death sentence” narrowed the field of specialization (overspecialization), making it difficult for non-specialists to care for PLH. Manifestations of HIV-stigma were described as preventive measures that exceed recommended guidelines, care refusal, unnecessary referrals to HIV-specialists, and overall reduced contact with PLH. Two findings were particularly striking: One, overspecialization of HIV management and contact reduction diminishes normalization of HIV and results into “unintended stigma”. Two, HIV-stigma not only impacts patients, but also leads to harmful outcomes for providers including work-related anxiety and noninvestment in patients with HIV. Study participants asserted the importance of health communication in provider-patient relationships, PLH-driven medical trainings, and patient empowerment.

Conclusion: The emergent theory revealed that healthcare workers perceive HIV-stigma as an injurious process that disrupts the development of therapeutic patient-provider relationships. Additionally, HIV-stigma directed from medical providers may be “unintended” due to field overspecialization and contact reduction with PLH. The current qualitative work may inform future research on HIV-stigma reduction strategies within healthcare settings.
While many respondents were supportive, others said they would not or were unsure if they would feel comfortable working alongside the following colleagues: transgender: 16.7%; bisexual: 15.5%; lesbian (female): 14.0%; gay (male): 12.5%; HIV-positive: 6.1%. 60% of respondents thought the UN system should better address the needs of UN staff who identify as being from one or more of the above population groups, as well as 92.4% who thought this for persons with disabilities, and 63.9% for persons with mental health conditions.

Description: Therefore, UN Care developed in 2015 four learning modules together called UN for All, addressing human rights, LBTGI issues, disability and substance use in the UN workplace.

Each module relies on personal accounts of UN staff who are part of each of the population groups. Participants are exposed to concepts and the latest facts, personal accounts promote empathy, and the UN workplace is examined through existing policies including the Universal Declaration of Human Rights. Modules are dynamic, hands-on and interactive.

Lessons learned: In late 2015, UN Care trained 211 UN staff in 93 countries from 29 UN organizations to facilitate these sessions with colleagues. On a scale of 1 to 5, aggregate feedback so far is: Core module, 4.43 and, LBTGI module, 4.48. One comment: “This was a real eye-opener for me. I took many things for granted and realized that I did not know even the terminologies (LGBT)!” Even in contexts where discussing the rights of LGBTI persons is difficult, setting an organizational expectation of respect and inclusion, and referring to human rights agreements, can help.

Conclusions/Next steps: UN Care will continue to implement UN for All across the organization and share lessons.

TUPE388

HEALTHCARE WORKER REFLECTIONS ON THE RELATIONSHIP BETWEEN HEALTH FACILITY SPACE AND HIV STIGMA IN 21 SOUTH AFRICAN AND ZAMBIA FAMILIARITIES: THE ELEPHANT IN THE ROOM OF HIV SERVICE DELIVERY?

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Background: Accessing antiretroviral treatment (ART) on a routine basis can be accompanied by anticipated and/or experienced stigma linked to ‘being seen’ at the health facility. The relationship between health facility spaces and HIV stigma for people accessing HIV-related services, and the added paradox of healthcare workers often ‘hiding’ their own HIV status in these spaces, is ‘the elephant in the room’ of HIV service delivery.

Methods: Healthcare workers key to HIV services (ART delivery and HIV counseling and testing) were interviewed in 21 urban government health facilities in South Africa (9) and Zambia (12), August to December 2015. This included at least three healthcare workers per facility. Participants completed either a mapping exercise or an in-depth interview (IDI). Both activities documented healthcare workers’ perceptions and experiences of ‘how comfortable’ people coming for HIV testing and PLWH ‘feel’ in different areas of the facility and awareness of policies/guidelines on infection control, patient rights, stigma reduction and HIV. 89 healthcare workers (139 facility workers and 50 lay workers - 22/89 PLWH) participated; 3/89 participated in both mapping and IDIs. Structured observations were also carried out.

Results: Participants found talking about stigma in ‘their’ facility hard. The mapping revealed a relatively consistent pattern of PLWH fearing to be seen at the TB corner and in the general waiting and pharmacy areas as opposed to feeling comfortable in the specialised HIV spaces. Items, like HIV testing slips, could be stigmatising. There was low awareness of policies/guidelines. Some health facilities had a separate ART system for healthcare workers LWH who were anxious about being identified, rarely disclosed to co-workers and identified ‘self-stigma’ as the strongest type of stigma.

Conclusions: Tailored interventions are needed for stigma related to health facility layout for everyone accessing HIV-related services, including healthcare workers living with HIV. Removing HIV identifiers (e.g. signs, coloured referral slips), putting policies/guidelines into practice, introducing integrated services, promoting all clinic spaces as ‘HIV equal’ and ‘stigma free’, ‘self-stigma’ reduction strategies and PLWH support group activities might mitigate stigma. Additional interventions for healthcare workers LWH - a ‘key population’ facing additional challenges accessing HIV services - urgently need careful consideration.

TUPE389

HEALTH CARE WORKER ATTITUDES AND BEHAVIOURS TOWARDS KEY POPULATIONS IN SOUTH AFRICA AND ZAMBIA: A CROSS-COUNTRY ANALYSIS WITHIN THE HPTN 071 (POPART) TRIAL

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Background: HIV-related stigma within healthcare settings may act as a barrier to the uptake and delivery of HIV care, particularly among key populations (KP) such as female sex workers (FSW) and men who have sex with men (MSM). This work describes attitudes and behaviours towards KP among health workers (HW) involved in the delivery of a package of HIV prevention interventions aimed at reducing community level HIV incidence. The work is nested within the HPTN071(PopART) trial, conducted in 9 communities in South Africa (SA) and 2 in Zambia (Z).

Methods: Data were collected from all facility- and community-based HW working in study communities who consented to participate in a quantitative survey (N=1875). HW were asked to respond to the same 9 statements about their perceptions on three populations (young women who become pregnant before marriage, FSW, and MSM) using a 4-point Likert scale of strongly agree, agree, disagree, and strongly disagree. The statements pertain to community-level stigma, co-worker stigma, and personal attitudes. We calculated combined proportions of HW who agreed or strongly agreed with each statement for each KP, stratified by country.

Results: In both countries, HW agreed more with statements about community-level stigma than co-worker or personal stigma. The statement ‘People sometimes talk badly about’ each KP received the highest proportion of agreement across all statements (range across 3 KP, SA:8.1-9.5%; Z:8.9-9.4%). For the statement ‘My co-workers sometimes talk badly about’ each KP, agreement was much lower (range SA:12.4-14.4%, Z:21.0-23.3%). Agreement with the statement ‘If I had a choice, I would prefer not to provide services to’ each KP was lower still (range SA:9.3-10.2%, Z:4.4-10.5%). Overall, agreement with statements about attitudes towards young women who become pregnant before marriage was lower than for attitudes towards FSW and MSM. Agreement with all statements was generally higher in Zambia than South Africa.

Conclusions: Our analyses suggest that stigma towards KP may exist within health care settings in PopART study communities and that the level of stigma perceived by HW may be higher in Z than SA. Further analyses will investigate how stigmatizing attitudes towards KP might differ across types of HW, and across socio-demographic characteristics.

TUPE390

FLAG MY VOICE: PAIRING INFLUENTIAL LEADERS AND LGBT COMMUNITY MEMBERS TO ELIMINATE STIGMA AND DISCRIMINATION IN RURAL TOWNSHIPS OF NPUMALALANGE

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Background: The South African National Strategic Plan (NSP) on HIV, TB and STIs (2012-2016) includes the promotion of human rights and justice, as both play a prominent role in ensuring equity in access to and uptake of services. However, high levels of stigma and discrimination directed at Lesbian Gay Bisexual and Transgender (LGBT) community members prevent the achievement of equity. Under the “Flag My Voice” programme we used a challenging yet innovative approach of supporting LGBT members to form partnerships with local influential leaders to give a voice to and bring about change in attitudes of stigma and discrimination in the Gert Sibande (GS) district communities.

Description: Ten local LGBT volunteers participated in prevention trainings and interactive programme design meetings. Participants were supported to approach influential public figures, such as police, taxi drivers and business owners, to work with them. Each pair developed a specific action plan using print media, radio and outreach activities, capitalizing on the influential positions of the public figures. These interventions resulted in: a) continued dialogue between LGBT and the community about LGBT rights; and b) the diffusion of positive behavior change. Results were documented using digital stories and presented during community feedback events, inspiring the expansion of the programme to include municipal departments, CBOS and NGOs in addressing similar issues.
Lessons learned: Availability, disinterest and self-stigmatization present real challenges when working with public figures. LGBT volunteers need adequate information and training to successfully mobilize potential partners. Strong religious and cultural beliefs continue to contribute to high stigma and discrimination; however, working with non-gay identified leaders in the pairs provided a strong new entry point into the community. Our use of digital stories to capture and promote positive messaging ensured continuity and helped sustain the programme with new working pairs.

Conclusions/Next steps: Community level stigma and discrimination prevention programmes can be effective when interventions have a hands-on approach, and are designed and implemented by local individuals, organizations and departments. Establishing new communication pathways through the formation of pairs encourages knowledge transfer, the development of relevant shared goals, and more integrated prevention interventions.

TUPE0391
CLASSIFICATION OF REFUSALS TO PROVIDE CARE EXPERIENCED BY PLHIV: A PROPOSAL STEMMING FROM A COMMUNITY-BASED SITUATION TESTING SURVEY, APRIL 2015
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Background: Although provider refusal and discrimination in accessing dental and gynaecological care are frequently reported by persons living with HIV (PLHIV) in France and the rest of Europe, they are very poorly documented with official data. French law provides for a concrete legal classification of the reasons for refusing to provide care only when such refusals are directed at low-income individuals (because of a specific health insurance coverage): outright refusals; discouragement strategies or disguised refusals (unusually long waits for an appointment, abusive or repeated referrals to a colleague, etc.); and discriminatory practices (a specific protocol, a breach of doctor-patient confidentiality, etc.). This classification was transposed to the context of PLHIV.

To document and classify possible differential treatments in accessing care between PLHIV and persons assumed to be HIV-negative in France, AIDES, a community based organisation for the fight against HIV and hepatitis, conducted a situation testing survey.

Methods: The situation testing survey which used a community-based research protocol, was carried out in April 2015 among 440 dental offices and 116 gynaecology offices randomly selected in 20 French cities. The replies from each medical office to two medical appointment seekers with the same sociodemographic characteristics, differing only in their HIV serological status, were observed.

Results: Among the 440 dental offices that were contacted, there were 3.6% outright refusals to provide care, 30% disguised refusals to provide care, and 16.9% instances of discrimination attributable to HIV. For the gynaecology offices, the figures were, respectively, 1.7%, 4.3% and 17.2%.

Conclusions: There were refusals to provide care, both outright and disguised, and discrimination directed at PLHIV when they requested an appointment. The classification of reasons for refusing to provide social care is fully transposable and suited to HIV-phobes’ refusals to provide care, which fall under the same illegal practices. This situation testing survey made it possible to test this classification in real-world situations for the first time in France to reveal violations of medical ethics. Its effectiveness proves that this classification should be extended and endowed with a genuine legal framework.

TUPE0392
HIV-RELATED STIGMA AMONG SPANISH-SPEAKING LATINOS IN AN EMERGING IMMIGRANT RECEIVING CITY IN THE UNITED STATES
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Background: Latinos infected with HIV in the United States (U.S.) present to health care services with more advanced disease than their non-Hispanic counterparts, with undocumented foreign-born men at highest risk for delayed diagnosis and presentation to care. HIV-related stigma has been associated with a reluctance to test for HIV among Latinos in the U.S. Despite the harmful impacts of community-wide stigma on HIV prevention and linkage to care efforts, there is limited data on the nature and degree of HIV-related stigma in urban Latino immigrant communities. Understanding and combating stigma in the community is crucial to improving HIV prevention and outcomes. Thus, this study assessed community HIV-related stigma within an emerging Latino immigrant receiving city.

Methods: We conducted a brief survey among a convenience sample of 312 Spanish-speaking Latinos. HIV-related stigma was assessed through 6 items selected to incorporate multiple stigma domains: fear of transmission and disease, anticipated stigma, association with shame, blame and judgment and support for discriminatory actions or policies against PLHA. Associations between stigma items, socio-demographic characteristics and HIV testing history were considered.

Results: We found a high prevalence of stigmatizing beliefs, particularly with regards to fear of infection due to an inaccurate understanding of HIV transmission and association with blame, shame and judgment about people infected with HIV. Gender, education and religiosity were significantly associated with stigmatizing HIV-related beliefs. For example, men were 3.4 times more likely to hold more than 3 stigmatizing beliefs than women, and were also twice as likely as women to report feeling hesitant to test for HIV for fear of people’s reaction if the test is positive.

Conclusions: Our findings revealed several attitudes and beliefs that likely propagate HIV-related stigma in the Latino immigrant community. These findings can help inform future stigma interventions in this community. In particular, we were able to distinguish between drivers of stigma such as fear and moralistic attitudes, highlighting specific actionable items. Understanding community level HIV-related stigma is a first step to developing culturally sensitive interventions that address the needs of the growing Latino immigrant population in the U.S.

TUPE0393
THE HUMAN RIGHTS AND HIV/AIDS PROGRAM: A COMMUNITY-BASED PROGRAM TO PROTECT THE RIGHTS OF PEOPLE LIVING WITH HIV (PLHIV)
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Background: There is a public health paradigm under which respect for human rights is a key component of HIV prevention strategies. Indeed, it is now accepted that the non-respect of these rights contributes to spread the epidemic. Based on this, COQC-SIDA (Quebec-wide coalition of organizations working on HIV/AIDS) implemented a Human Rights and HIV/AIDS Program (HRHAP) in 2005. The goal of this program is to promote and to protect the rights of PLHIV and support all COQC-SIDA’s members in their own strategies for promoting human rights.

Methods: The HRHAP performs legal monitoring of violations of PLHIV’s rights and develop common policies and advocacy strategies. Moreover, an HIV information service (HIV Info Rights) was created in 2009 within the HRHAP. This service provides the opportunity for PHAs to receive free information and legal assistance on matters related to their serological status (discrimination, insurance, access to care, criminalization …). Since its inception, more than 1,200 people have used HIV Info Rights: the number of users is increasing continuously, from 169 users in 2009/2010 to 230 in 2014/2015.

Results: The HRHAP has worked on a policy on the criminalization of HIV exposure, representing the position of all COQC-SIDA’s members, and has participated in several cases at the Supreme Court of Canada. Also, with the support and involvement of its members, the HRHAP has carried out a community-based research project on access to dental care for PLHIV. This research allowed the HRHAP to inform dental care professionals about discrimination and access to care within the dental care services.

Conclusions: The HRHAP is conducting an advocacy project on discrimination in employment against PLHIV in particular due to the use of health questionnaires during recruitment process. In this context, the HRHAP coordinated the produc-
tion of a short film about this issue and conducted a survey on discrimination in employment. The HR-HAP plans to make concrete recommendations to political and judicial actors to promote access and retention in employment for PLHIV. The HR-HAP would also develop HIV Info Rights service and reach people who do not attend community-based organizations.

**TUPED394**
MY HEALTH, MY RIGHTS: SUCCESSFULLY CHANGING A HOSTILE LEGAL AND HIV ENVIRONMENT FOR TRANSGENDER WOMEN AND EFFEMINATE GAY MEN IN PUEBLA, AGUASCALIENTES AND MEXICO CITY METROPOLITAN AREA

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**Background:** Mexico has a Human Rights (HR) legal framework which includes the HR of LGBTI persons, who continuously experience institutional violence, which abuse and harassment which jeopardize their lives and hinder their access to security, just and healthcare. Gender based violence and social homo/transphobia lead to high levels of hate crimes, hence the need to address such violence urgently.

**Description:** “My health, my rights” (Mi Salud, Mis Derechos) identified, documented, and analyzed and made visible the experiences of LGBTI populations regarding abuses and violations of their HR by health, security and justice authorities due to high prevalence of stigma and discrimination. The program documented how health, security and justice service providers abuse the HR of transgender women and “effeminate” gay men, especially when HIV is present, a factor that allows for further discrimination and violence. Participatory community assessments, community engagement strategies and practical participatory tools enabled beneficiaries to tailor public political actions to the social realities and lived experiences of the LGBTI communities. A data base identified the perpetrators as well as the norms, regulations, laws and international treaties being violated. Evidence-based advocacy and community mobilization helped changing harmful and abusive municipal regulations.

**Lessons learned:** Meaningful involvement of target populations in evidence-based advocacy interventions is a key element to ensure that legal changes in a hostile environment can take place. Establishing strategic alliances with key stakeholders facilitates entry to decision-making spaces. The program has reached 720 most at risk people MARP mostly Transgender women and effeminate gay men; documented 120 cases of HR violations; held 15 participatory community assessments, and 9 awareness sessions with police and justice staff and produced two practical guides to raise awareness among healthcare providers and police.

**Conclusions/Next steps:** Program outcomes indicate that promoting structural changes in close partnership with affected communities and key decision making allies, is an effective way to achieve structural changes in the environment, opens a path to include new partners already involved in other local initiatives, and contributes in reducing the risks of HIV linked with gender based violence and HR abuses.

**TUPED395**
STIGMA AND DISCRIMINATION EXPERIENCES IN HEALTH CARE SETTINGS MORE EVIDENT AMONG TRANSGENDER PEOPLE THAN MALES HAVING SEX WITH MALES (MSM) IN INDONESIA, MALAYSIA, PHILIPPINES AND TIMOR LESTE: KEY RESULTS

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**Background:** To investigate the experience of stigma and discrimination (SAD) in health care settings (including HIV/AIDS and sexual and reproductive health services) among Males having Sex with Males (MSM) and Transgender (TG) persons in South East Asia, a four-country study conducted by the ISEAN-Hivos Regional Program (Global Fund HIV/AIDS Grant). It aims to provide information on the status of stigma and discrimination (SAD) among MSM and transgender persons using a questionnaire developed based on the forms of SAD as described in the Stigma and Discrimination Index Questionnaire.

**Methods:** The study’s questionnaire described SAD in terms of the respondents’ self-reported perception of: 1. Refusal of health care services, 2. Physical maltreatment, 3. Verbal maltreatment, and 4. Provision of health care service below standards. A total of 2,409 respondents (30% (n=719) of whom are self-identifying male-to-female transgender persons, participated in this study. There were 264 transgender respondents from Indonesia, 204 in the Philippines, 174 in Malaysia, and 77 in Timor Leste.

**Results:** Overall, the results indicate that significantly more transgender respondents experienced SAD in health care settings compared to MSM. In terms of proportion, verbal maltreatment was the most commonly experienced (24.26%), followed by receiving a perceived low quality of health service (22.57%), being refused access to health care services (18.23%) and lastly, physical maltreatment (18.21%). Comparing across countries, there were proportionately more SAD experiences reported by transgender respondents in Timor Leste (41.06%), followed by Malaysia (32.67%), Philippines (7.47%) and Indonesia (2.0%).

**Conclusions:** The result of the SADS suggests that there is a wide variation across the four countries in terms of transgender persons experiencing stigma and discrimination. Verbal maltreatment is the topmost common form of SAD among transgender respondents. The study indicates that transgender’s personal experiences of SAD are more frequent than MSM. Also, about one third of the transgender respondents continue to experience SAD. Almost 60% of the transgender respondents, however, did nothing to address SAD. SAD still exists in health care settings, which needs support for more interventions to significantly decrease, if not totally eradicate SAD in its many forms.

**TUPED396**
HIV AND SEXUALITY RELATED MULTIPLE STIGMA AND LOSS OF SOCIAL SUPPORT EXPERIENCED BY HIJRA PERSONS IN MUMBAI, INDIA

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**Background:** In India, the marginalized subgroup of transgender, referred as Hijras constitute a high-risk group with 8.8% HIV prevalence. HIV related stigma is multifold when the person is also a Hijra person. A study, SHAKTI, funded by ICMR and NIH, focused on the aspects of stigma of HIV and sexuality among Hijra persons in Mumbai.

**Description:** A qualitative research study was undertaken to explore the multiple stigma related issues among Hijra communities. Data from Hijra persons was collected through 6 in-depth interviews and 7 FGIDs covering a total of 50 Hijra persons.

**Lessons learned:** Hijra persons especially those in commercial sex were vulnerable to HIV, faced multiple stigma of sexuality, gender non-conformity, sex work and HIV in health care settings. HCPs in particular were trans phobic and were less knowledgeable about sociocultural aspects and health issues faced by Hijra persons which resulted in lack of competent and satisfactory health care services to Hijra persons. Hijra person reported negative attitudes from doctors and from nurses and ward boys. The attitude of these health care providers changed particularly upon learning HIV status of the Hijra persons. The negative attitudes from support staff accompanied by neglect and dissatisfaction towards care providers at the public hospitals and ART centers resulted in Hijra persons postponing opportunistic infections’ treatment and routine health check-ups. HIV status also led to ostracization by ‘Gurus’ and loss of livelihood on account of outing of their HIV positive status to peers and potential clients.

**Conclusions/Next steps:** Hijra persons fall through the HIV care continuum due to the institutional and social factors. In order to retain Hijra persons in the HIV care, there is a urgent need to develop intervention at two levels. Firstly, at the institutional level, there is a urgent need to implement evidence-based trainings among health care providers to promote understanding in terms of sex, gender, sexuality and health care challenges faced by Hijra. Secondly at the community level, there is a need to work with Hijra ‘Gurus’ about ‘positive living’ so that loss of social support is minimized for the HIV positive Hijra persons and retain them in HIV care continuum.
Background: The People Living with HIV (PLWHIV) faces stigma &discrimination at workplace, school settings and healthcare settings. This study aims to further recognize the underlying roots of stigma and discrimination associated with PLWHIV in health care settings in India and factors that may facilitate promotion of more equitable conditions and actions to support them.

Methods: The study was conducted in 17 districts covering 6 states of India. A total of 1,260 health care providers (HCPs) were selected for the study. The target group consisted of Primary Group (medical staff) and Secondary Group (non-medical staff). Interviews with 635 doctors, 266 medical students, and 358 non-medical HCPs were conducted during the month of July 2014.

Results: The study reveals that more than 50% of HCPs had incorrect knowledge of transmission through blood splashes to eyes or mouth. More than 75% of all HCPs did not consider sexual orientation of HIV. Apart from incorrect knowledge misconceptions such as the possibility of HIV transmission through touch, sharing clothes or utensils, mosquito bites, and breath were prevalent among HCPs. The medical staff reported taking extra precautions such as double gloves (77%), PPE (68%), boots (67%), vaccines (39%), and complete avoidance of the patient (6%) while dealing with an HIV-positive patient. Discriminatory practices were also found as 53% of medical staff reported that invasive procedures on patients from high-risk groups (sex workers, poor, etc.) were postponed until their serostatus was confirmed.

Conclusions: The discriminatory comes in form of segregation of PLWHIV from other patients, labelling of beds, delay in treatment, breach of confidentiality, withholding HIV test results from patients, disclosure without consent, mandatory HIV-testing before invasive procedures, and providing insufficient or inadequate counseling. Gaps in knowledge, lack of training and policies, fear of contagion, and self-identified inefficiencies of doctors to treat PLWHIV, contributed to an environment of stigma and discrimination toward PLWHIV within health facilities. Need for an intervention targeting medical staff members addressing knowledge gaps, stigmatizing attitudes, and discriminatory practices within the health facilities have been identified by the study findings.

TUPED398
ADVANCING LABOUR RIGHTS OF PERSONS LIVING WITH HIV IN ARGENTINA

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Background: Fundación Huesped (FH) observed a high percentage of complaints about employment regarding stages of applications and employer-employee relations at the moment when the person’s HIV status becomes known. Our principal focus concerns discrimination in recruitment, and following hiring, due to HIV testing and regular medical exams. This discriminatory attitudes continue to exclude a high number of HIV-positive individuals from the workforce.

Description: In the last 12 years, Argentina continues reaching toward employment rights as fundamental human rights. Via policy, incorporation of international criteria through our points and a development of political agreements, we met the concept of the worker being subject to fundamental human rights has developed. Still, FH has daily pointed out discriminatory labour practices which are believed to be protected by legal dilemmas, and continue to prevent equal access and opportunity in employment.

Lessons learned: As a result of the advocacy of FH, in May of 2015, Argentina’s Ministry of Labour issued Resolution 270 allowing the reporting of laboratory studies to patients, before invasive procedures, and providing insufficient or inadequate counseling. Gaps in knowledge, lack of training and policies, fear of contagion, and self-identified inefficiencies of doctors to treat PLWHIV, contributed to an environment of stigma and discrimination toward PLWHIV within health facilities. Need for an intervention targeting medical staff members addressing knowledge gaps, stigmatizing attitudes, and discriminatory practices within the health facilities have been identified by the study findings.

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TUPED399
HIV-RELATED STIGMA AND DISCRIMINATION IN HEALTHCARE: FINDINGS FROM THE STIGMASURVEYUK 2015

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Background: Stigma and discrimination remain important barriers to HIV prevention and care. We examine the association between experiences of HIV discrimination in healthcare with worry about and avoidance of care.

Methods: STIGMASURVEYUK 2015 is a community led project. Participants reported their experiences at a range of healthcare settings in the previous 12 months in an online anonymous survey. A ‘discrimination’ composite was based on the sum of scores of five questions regarding: being treated differently to other patients, refused treatment, given the last appointment of the day not by choice, and experiencing negative comments about people living with HIV or excess attention to barrier protection by healthcare workers. Descriptive, univariate and multivariate analyses were performed.

Results: 1528 participants (97%) completed the healthcare section. Mean age was 44 years (range 18 - 83 years). 1152 (76%) were male (948 [82%] identified as men who have sex with men) and 344 (23%) female (322 [93%] identified as heterosexual). 555 (36%) identified as Black, Asian or minority ethnic. 41% of participants (628) reported experiencing discriminatory treatment in a healthcare setting; 46% (147) of Black African or Caribbean participants reported discriminatory treatment compared to 43% (385/908) of white British (p=0.001); and 18/52 (56%) trans compared to 41% of other participants (p=0.034). Overall 60% (910) reported worrying about being treated differently to other patients and 29% (439) reported avoiding healthcare when required. Of the 628 participants who experienced discriminatory treatment, 89% and 54% (n=628) reported worrying about being treated differently and avoiding care respectively. These figures were significantly higher compared to the 766 participants who reported no discrimination (27% and 10% respectively; p<0.001 for both). Experience of discrimination in healthcare was strongly associated with both worry about discrimination and treatment (AOR 14.25, 95% CI 10.10, 20.09) and avoidance of care when required (AOR 8.70, 95% CI 6.27, 12.07) after adjustment for demographics, diagnosed depression, time of diagnosis, disability, injecting drug use, self-image and resilience.

Conclusions: Experiences of discriminatory treatment in healthcare settings are strongly and independently associated with worry about and avoiding seeking care when required. Sensitivity training targeted at healthcare workers to reduce discriminatory treatment of HIV-positive patients is required.
TUPED402
HARD TIME AND SUCCESS: THOUGHTS ON XIAO FENG’S CASE AND PLHIV ACCESS TO MEDICAL SERVICE IN CHINA
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Background: In China, PLHIV access to medical service can be a very difficult thing due to severe discrimination and stigma among the medical workers to PLHIV. It usually results that many small illnesses on PLHIV become big disease due to no timely treatment, particularly for those illnesses that need to have surgical operation, even if the law and government regulation had stipulated that no one can stop PLHIV access to medical service. The reasons behind it are 1) lack of correct HIV knowledge among medical workers; 2) few PLHIV dare to openly use legal stipulation to suit those hospitals and medical workers and protect their rights; 3) no supervision over the law and government regulation implementation; 4) PLHIV community did not loudly voice our demand out.
Description: In 2013, Xiao Feng, a 26-year-old PLHIV from Tianjin, openly suited a local hospital for rejecting him receiving surgical operation to treat his lung cancer with support from China Alliance of People Living with HIV (CAP+). After many difficulties, in 2015, the Tianjin Superior People Court openly made their judgement that Xiao Feng win the case and received RMB70,000 as an compensation. During the whole process, CAP+ and Xiao Feng use many different ways include change illness file names to force the hospital to give him operation. They together experienced a long hard time and finally won the case and Xiao Feng received proper treatment finally.
Lessons learned: 1) properly use media to call the attention from the society; 2) better negotiation skill to face the state owned hospital; 3) internet and new technical application in the whole process; 4) close cooperation between lawyers and community based groups; and 5) skillfully use the government policies, state regulations and laws in reality.
Conclusions/Next steps: We will summarize the successful experiences and provide future support to PLHIV. We will advocate our government to provide HIV related education to those medical workers in the state owned hospitals. We will draft education materials target to medical workers. We will unite our PLHIV community to go on advocate on the internet and in real life for our rights to access to medical service in this country.
TUPE0404
ROLE OF PRIMARY MEDICAL CARE IN HIV RESPONSE IN UKRAINE: INVESTMENTS IN POST-GRADUATE EDUCATION OF FAMILY DOCTORS

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Background: The ways to achieve global strategies 90/90/90 in Ukraine, primarily involving professionals of specialized medical facilities (secondary health care). Herewith, little attention paid to the primary care medical assistance, which is provided for all citizens of Ukraine, including representatives of most-at-risk groups. Therefore more than 550 primary health care facilities are not involved into provision of medical care for HIV-positive people in Ukraine. However, family doctors plays significant role in the cascade of services provided to PLWH. Family doctor has an opportunity to consult patients on the availability of HIV testing and interpretation of its results, as well as to refer patients for appropriate treatment and to monitor adherence to treatment and evaluating its results. After analyzing the current work program cycles on postgraduate education of family doctors there was discovered that only 6 hours of practical lessons which cover issues of provision medical care to PLWH and MARPs in primary health care facilities. Pre-certification specialization courses program also doesn’t include issues on HIV/AIDS.

Description: The curriculum of post-graduate training “Management of Patients with HIV/AIDS by Family Doctor” aimed to increase the level of knowledge and skills of family doctors on HIV/AIDS was developed and approved within USAID RESPECT project: “Reducing HIV-related Stigma and Discrimination for Most-at-Risk Populations in Health Care Facilities in Ukraine”. 5 cycles of indicated TU with the participation of 111 family doctors were conducted in 2015.

Lessons learned: Results of studies show that the general level of knowledge of participants after training increased from 58% to 77%. In addition, as a result of the training, the level of communication and cooperation at regional level between family doctors, representatives of NGOs and specialized medical facilities increased.

Conclusions/Next steps: The number of patients referred to the HIV testing counseling centers and to the second level of health care services provision increased as a result of changing family doctors attitude to PLWH and willingness to share gained knowledge among other medical staff of HCFs.

TUPE0405
HIV-RELATED STIGMA AND DISCRIMINATION IN RURAL COMMUNITIES IN KENYA: EXPERIENCES OF WOMEN LIVING WITH HIV AND COMMUNITY HEALTH VOLUNTEERS

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Background: PLHIV experience various forms of stigma and discrimination (S&D) both in their community and at health facilities. S&D has the potential to reduce demand for services and prevent PLHIV from accessing available care and treatment services. The purpose of this study is to assess the perception and experiences of HIV-related S&D among PLHIV and PHCVs. This study is part of a larger study aimed at testing interventions to integrate family planning into HIV services at the community level.

Methods: This is a quasi-experimental before-and-after research design with a comparison site. Sambia Sub-County is the control site. Interventions will include a five-day training of CHVs in FP counselling using the community version of the balanced counselling strategy plus job aids (BCS+), reducing HIV-related stigma and discrimination, and business skills to enable CHVs to run income-generating activities to sustain their operations. Baseline survey was undertaken in November and December 2015 and are reported here. The study population consisted of HIV positive women (N=1611) and CHVs (N=210).

Results: About 29% (N=1611) of all women living with HIV had experienced some form of stigma and discrimination. Of those who experienced stigma and discrimination, a slightly higher proportion reported begin gossiped about in Samia (50%) compared to Butula (47.2%). About 39% of respondents in Sambia and 32% in Butula (P< 0.05) had been verbally assaulted due to their HIV status. CHVs also experience secondary stigma due to their support and care of PLHIV, 15% reported that family members or friends avoid them because they take care of PLHIV. In their work, however, CHVs also reported stigmatizing behaviors towards their PLHIV clients: about 15% avoid physical contact with PLHIV and 14% wear double gloves when touching patients with HIV.

Conclusions: Results from study show that there is a need to address S&D behaviors with CHVs. This is critical as we move towards relying more on CHVs who are the frontline workers and who help to create linkages for PLHIV to health care facilities.

TUPE0406
THE LESS THAN GOOD QUALITY OF LIFE OF TRANSGENDER PEOPLE IN BRAZIL: RESULTS FROM THE MUREIL PROJECT

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Background: Globally, studies increasingly show transgender people encounter alarming levels of discrimination and physical violence that may contribute to their disproportionately high rates of HIV/AIDS. Thus we examined experiences with violence and discrimination across domains - from their immediate family to experiences with educational, employment, health care, and even transportation sectors - to better understand the context of vulnerability in which transgender people operate in São Paulo, Brazil.

Methods: Between November 2014 and October 2015, 673 transgender individuals receiving care at either a health facility or social services completed an interview-administered survey. Socio-demographic characteristics, experiences with violence and/or discrimination, as well as self-reported HIV status among transgender people (FtM and MtF) were assessed in 7 municipalities of the State of São Paulo. Analysis of selected variables from the semi-structured survey is presented. Participants were asked to select one of the following categories to qualify their relationship with each domain: good, acceptable, troublesome, very bad and non-existent. Descriptive statistics are presented.

Results: Among the 673 trans people interviewed, 626 were MtF and 47 were FtM. 180 (26.87%) individuals reported being HIV-infected, 166 (24.78%) did not know their health status and the remaining individuals did not disclose their status. Nearly half (47.85%) described their relationship as “Good” with family and with their employers (44.87%), whereas approximately a third described their relationship as “Good” while using public transportation (33.28%), shopping (36.85%), and in religious settings (35.66%). Even fewer reflected positively on their experience with the educational system (21.99%), or the police (11.89%).

Conclusions: More than half of the transgender people interviewed in São Paulo do not have a good relationship engaging with basic institutions. In order to change the unacceptable living conditions faced by transgender people in Brazil, public policies and programs need to address specific institutions and work with a range of stakeholders to improve the daily experience of transgender individuals in Brazil.

TUPE0407
PAIN AND NON-ADHERENCE TO ART ARE ASSOCIATED WITH PERCEIVED DISCRIMINATION BY HEALTH CARE PROVIDERS AMONG RACIAL MINORITY PERSONS WHO FORMERLY OR CURRENTLY USE DRUGS

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Background: Racial/ethnic minorities, persons living with HIV (PLWH), and persons who use drugs (PWUD) are vulnerable to major social stress, including discriminatory experiences from health care providers, and its associations with their adherence to antiretroviral therapy (ART).

Methods: Cross-sectional data from baseline of the AFFIRM Care study was used. The study recruited current or former drug users using persons (n=276) attending an academic, urban US HIV clinic. Participants were primarily older (median age 53)
African Americans (9%), diagnosed with HIV a median of 20 years prior. Perceived discrimination from health care providers in the prior two years was defined as based on race/ethnicity, HIV, speech, and current or former drug use. Adherence was defined as excellent adherence versus less than excellent adherence or not taking ART for other than doctor-initiated reasons. Depressive symptoms were assessed by the CES-D 10.

Results: Three-fourths of participants reported pain in the prior 30 days that interfered with their normal activities, 36% reported recent heroin or cocaine use, and only 41% reported excellent adherence to ART. Logistic regression results indicated that perceived discrimination was independently associated with pain interference (AOR=1.47; 95% CI 1.08, 2.02) and non-adherence to ART (AOR=0.30; 95% CI 0.11, 0.77), as well as perception that their doctor would not believe them if they had serious pain (AOR=3.06; 95% CI 1.36, 6.89) and reports that their doctor had ever refused them pain medication they felt they needed (AOR=3.23; 95% CI 1.44, 7.27). Analysis adjusted for depressive symptoms and other potential confounders.

Conclusions: The results suggest ways in which perceived discriminatory experiences contribute to the population’s disparities in healthcare quality and outcomes. Improved relationships between healthcare providers and drug using PLHIV, and enhanced access to safe, effective pain treatment, may help ameliorate PWIDs’ disparities in pain and HIV health outcomes.

LEGAL PROTECTION OF PEOPLE LIVING WITH HIV AND KEY POPULATIONS

TUPE409 BEING STRATEGIC ABOUT STRATEGIC LITIGATION: USING STRATEGIC LITIGATION TO ADVANCE PUBLIC HEALTH OUTCOMES

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Background: Strategic litigation can be a powerful advocacy tool to effectively address HIV as in addition to ensuring protective laws, policies and practices, it can also result in the empowerment of marginalized populations and lead to greater public awareness of relevant issues. Despite this, it remains an underutilized tool.

Description: To address this gap, we sought to identify why strategic litigation is underused; its limitations and risk; its benefits on health outcomes; and key lessons learned from almost a decade of experience in supporting litigation on HIV throughout the world.

The research was based on a comprehensive desk review of written and audio materials, including academic papers; publications by practitioners, funders, and international agencies; and legal filings and decisions. It was also based on key interviews with over two dozen funders and practitioners.

The research draws on a detailed discussion of six emblematic HIV-related cases. The cases were deliberately selected from a range of countries, including Namibia, Russia, Kenya and Canada and cover different HIV-related issues, such as access to opioid substitution therapy, coerced sterilization of HIV-positive women and access to HAART.

Lessons learned: Key lessons identified include:
• Strategic litigation should be part of a broader, long-term advocacy plan and involve partnership with other organizations and allies, including social movements. Further, organizations seeking to litigate on HIV should build relationships with a wide range of experts, including medical practitioners, epidemiologists, and health economists.
• Strategic litigation funders should provide multi-year funding to a range of organizations, including community-based organizations and advocacy organizations, and support complementary media activities.
• Organizations should draft an implementation strategy prior to litigating and reassess it as the litigation continues.
• Organizations should consider taking an incremental approach to litigation. For example, it may be strategic to challenge the police abuse of sex workers prior to challenging the criminalization of sex work.

Conclusions/Next steps: There is a need to both scale up the use of strategic litigation in the HIV response and to ensure it is used most strategically. To support this, the study findings will be widely disseminated to relevant funders, practitioners and organizations.

TUPE410 JUSTICE PROGRAMS FOR PUBLIC HEALTH: LESSONS AND GOOD PRACTICES

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Background: For many people living with HIV, people who use drugs, sex workers, and palliative care patients, rights violations are part of everyday existence, negatively impacting their health and well-being. Violations both impede access to health services, such as when police harassment prevents people who use drugs from accessing harm reduction, as well as to underlying determinants of health, such as safety or housing. Access to justice programs are critical in addressing these violations. However, in many countries, these programs are nonexistent, the link between rights and health is poorly understood, and there is little guidance on effective programming.

Description: To address this gap, we sought to identify good practices for access to justice programming in the context of HIV, drawing on almost a decade of experience in supporting this work in sub-Saharan Africa, Eastern Europe, and Central Asia. Our research was based on interviews and facilitated discussions with practitioners and funders, complemented by a review of materials from practitioners, academics, funders, and international agencies. Our findings were then vetted by over 40 expert reviewers before finalization in 2015 and launches in Kenya and Macedonia.

Lessons learned: Key lessons identified include:
• Lawyers need to meet communities “where they are at,” working outside regular office hours, engaging in outreach, and addressing needs non-judgmentally.

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Legal Environment Assessments: a Tool to Generate Evidence for Law, Policy and Strategy Review and Reform in Africa

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Background: The report ‘Risks, Rights and Health’ of the Global Commission on HIV and the Law showed stigma, discrimination, punitive laws, police violence and lack of access to justice continue to fuel the HIV epidemic. It recommended conducting legal environment assessments (LEAs) as a method to generate evidence for changing unfavourable laws and policies pertaining to HIV. An LEA looks at HIV and human rights, and reviews legal, policy and regulatory frameworks in the context of HIV focussing on stigma and discrimination; women and gender; children and young people; criminal laws and key populations; and access to HIV treatment. In Africa, LEAs have been successfully used to generate evidence for law, regulation, policy and strategy review and reform and strengthen stakeholder capacities.

Description: With Norwegian and Swedish Government assistance, UNDP supported 10 African countries to conduct LEAs from 2013-2015. Guidance to conduct LEAs was developed and countries engaged with stakeholders (LGBT, key populations, services providers, government ministries, the police, the judiciary and civil society), to build capacity and generate evidence on laws, policies, regulations and strategies pertaining to HIV, and to identify human rights barriers, challenges, and gaps. Evidence from the LEAs were used by governments to address gaps in their national policies and strategies, inform their global fund concept notes and engage in long-term law and policy reform.

Lessons learned: Countries used evidence from the LEAs—for law revision to remove criminalisation of HIV transmission (DR Congo); to include lubricants in national drug list (DR Congo); to stop harassment of MSM (Malawi); to reform law and include protection for PLHIV, women and prisoners (Chad); to revise the law and remove criminalisation of HIV transmission (Mozambique); and to prioritise key population interventions in new national HIV plans (Nigeria). Evidence from LEAs were utilised to inform Global Fund new funding model concept notes (Cameroon & Kenya).

Conclusions/Next steps: Legal environment assessments generate evidence for countries to undertake law, policy and strategy reforms, build capacity of stakeholders and strengthen the voice of key and vulnerable populations to improve their access to rights-affirming HIV services.

Peer to Peer Learning on Preventing Anti-Homosexuality Bills: The DR Congo and Burkina Faso Case Study

G. Block4, B. Miligo4, A. Saha1, T. Sellers2

Background: In February 2015, a political party in Burkina Faso introduced a draft Bill for discussion in the National Assembly, seeking to outlaw and ‘repres’ bestiality, paedophilia and ‘same sex marriage’. News of this was shared between organis-
TUPED414
STRENGTHENING THE HIV-RELATED LEGAL AND POLICY ENVIRONMENT FOR KEY POPULATIONS IN THE DEMOCRATIC REPUBLIC OF THE CONGO: A CASE STUDY
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Background: Following the work of the Global Commission on HIV and the Law, there has been increased interest in the HIV-related legal and policy environment. Implemented by the United Nations Development Programme (UNDP), one such project seeks to use the Global Commission’s recommendations to improve HIV-related legal and policy environments for key populations including LGBT populations and women and girls in 11 countries in sub-Saharan Africa including the Democratic Republic of the Congo (DRC).

Description: A critical mass of stakeholders, across different types of organizations including government, civil society organizations and United Nations agencies, each with access to different networks and champions have met regularly for the last few years and undertaken systematic and strategic advocacy, each playing to their respective strengths and collectively adopting multiple entry points for action to improve the HIV-related legal and policy environment. To maximize project learning, we did a desk-based document review and key informant interviews with project implementers and beneficiaries.

Lessons learned: Remarkable strides are being made to improve relevant HIV-related laws and policies in the DRC. Examples include: creating an enabling legal and policy environment as a key pillar of the National Strategic Plan on HIV; the addition of lubricant to the essential medicines list; and collective efforts to amend problematic provisions of the HIV law to protect people living with HIV. These achievements derive largely from the unwavering commitment of key stakeholders, and relied on a robust evidence base as to why action was necessary. Findings and conclusions from the PLHIV Stigma Index and the UNDP-supported legal environment assessment were critical. Capacity building on HIV and the law (e.g. judges, health workers, parliamentarians) has been essential for raising awareness, ensuring appropriate service delivery, and creating an ever-increasing circle of advocates committed to positive change.

Conclusions/Next steps: The incremental gains in policies and related activities achieved to date should be appreciated and built upon as part of the process towards legal change. The fact that this work can take place to such positive effect in a conflict-affected country offers lessons to government, civil society and donors in other similarly situated countries.

TUPED415
LEGAL SERVICES: ESSENTIAL TO NATIONAL RESPONSES, YES, BUT WHAT ABOUT QUALITY AND COVERAGE?
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Background: HIV-related discrimination is an obstacle to scaling up HIV prevention, care and treatment services in every country. The United Nations International Guidelines on HIV/AIDS and Human Rights identify legal services as a core State obligation. This program aims strengthen and expand HIV-related legal services, and to support law and policy reform.

Description: The current phase 2014-2016 took place in Latin America, Middle-East/North Africa, and West Africa. Technical and financial support was provided to non-governmental organizations in each country to provide quality legal services to PLHIV and other affected populations - MSM, transgender, SW, prisoners and PWUD: NGO capacity was enhanced through regional networking and inter-regional consultations. Results include: building strong networks and sharing experiences; building awareness within communities by partnering with community-based organizations; expanding access to legal services; strengthening legal skills and knowledge, including in interactions with police and the criminal justice system; and influencing governmental and legal policy for sustainable outcomes, e.g. through strategic litigation and the inclusion of legal services in national plans. Independent evaluations found that the program has created cadres of informed attorneys, para-

TUPED417
INTEGRATION OF LEGAL AID SERVICES IN PALLIATIVE CARE (PC): EXPERIENCE OF USING COMMUNITY PARALEGALS TO PROTECT RIGHTS OF PALLIATIVE CARE PATIENTS
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Background: Most patients on palliative care programme experience human rights violations due to the fact that health workers dwell more on issues requiring medical attention which limits access to justice. Reports on stressed palliative care patients —majority with HIV, alarmed UGANEFT to intervene through training of Community paralegals
Clinical outreaches should go hand in hand with ‘socio-legal’ interventions through palliative care remain critical in upholding the human value and dignity of patients.

Conclusions/Next steps: better social welfare of PC patients.

and 32 females) reported improved adherence levels because their succession plan free legal aid services from UGANET Paralegals and lawyers. 130 patients (98 males patients who had lost due to socio-cultural exclusion related to their health status. Out powered with basic legal knowledge; that supported 1530 (1001 F, 529 M) PC pa

Lessons learned: provide a holistic approach to palliative care patients.

and Home care centers together with the legal officer link up with the paralegals to contribute to the discrimination of PLHIV.

The fight against stigma and discrimination is not over: 53 countries still contribute to the discrimination of PLHIV. According to official data of the Ukrainian CDC Center of the Ministry of Health of Ukraine, as of 01.01.2015, there were 137,390 people living with HIV (PLWHIV). In 2014, armed conflict in the Eastern Ukraine affected the region of approximately 5.2 million people including the Donetsk region which has high HIV and TB prevalence; 50% of the registered people living with HIV reside in 3 (out of 27) oblasts (Dnepropetrovsk, Donetsk, Odessa). The migration of PLWHIV and key populations at higher risk of HIV to other regions of the country creates challenges, more cases of human rights violations and an additional burden to the health systems of the host-regions (including ART distribution, prevention programmes and other). Description: The focus of UNDP humanitarian response was to monitor the human rights violations of internally displaced PLWHIV by using formative assessment, exist

Background: According to official data of the Ukrainian CDC Center of the Ministry of Health of Ukraine, as of 01.01.2015, there were 137,390 people living with HIV (PLWHIV). In 2014, armed conflict in the Eastern Ukraine affected the region of approximately 5.2 million people including the Donetsk region which has high HIV and TB prevalence; 50% of the registered people living with HIV reside in 3 (out of 27) oblasts (Dnepropetrovsk, Donetsk, Odessa). The migration of PLWHIV and key populations at higher risk of HIV to other regions of the country creates challenges, more cases of human rights violations and an additional burden to the health systems of the host-regions (including ART distribution, prevention programmes and other).

Description: The focus of UNDP humanitarian response was to monitor the human rights violations of internally displaced PLWHIV by using formative assessment, existing national and regional online online google.doc platform monitoring systems, national HIV hotline, and providing legal assistance to internally displaced key population and PLWHIV via a small grant scheme for local NGOs from most affected areas.

Lessons learned: IDPs living with HIV experience difficulties and violation of their human rights (lack of proper medical services, and at the same time they face high stigmatization at the host communities). Most of the health institutions and medical specialists discriminate IDPs due to their HIV-positive status. The number of women IDPs living with HIV is much higher than men and they are more vulnerable to human rights violations. Strong need for legal service of IDPs with HIV and local NGOs can provide legal support.

Conclusions/Next steps: The IDPs living with HIV are discriminated in the host communities and in healthcare sector institutions. NGOs in collaboration with local governments have to provide special assistance, human rights protection and legal aid for IDPs with HIV at the local level.

TUPEED418
HUMAN RIGHTS OF INTERNALLY DISPLACED PEOPLE (IDP) LIVING WITH HIV IN UKRAINE

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Background: According to official data of the Ukrainian CDC Center of the Ministry of Health of Ukraine, as of 01.01.2015, there were 137,390 people living with HIV (PLWHIV). In 2014, armed conflict in the Eastern Ukraine affected the region of approximately 5.2 million people including the Donetsk region which has high HIV and TB prevalence; 50% of the registered people living with HIV reside in 3 (out of 27) oblasts (Dnepropetrovsk, Donetsk, Odessa). The migration of PLWHIV and key populations at higher risk of HIV to other regions of the country creates challenges, more cases of human rights violations and an additional burden to the health systems of the host-regions (including ART distribution, prevention programmes and other).

Lessons learned: IDPs living with HIV experience difficulties and violation of their human rights (lack of proper medical services, and at the same time they face high stigmatization at the host communities). Most of the health institutions and medical specialists discriminate IDPs due to their HIV-positive status. The number of women IDPs living with HIV is much higher than men and they are more vulnerable to human rights violations. Strong need for legal service of IDPs with HIV and local NGOs can provide legal support.

Conclusions/Next steps: The IDPs living with HIV are discriminated in the host communities and in healthcare sector institutions. NGOs in collaboration with local governments have to provide special assistance, human rights protection and legal aid for IDPs with HIV at the local level.

TUPEED419
THE FIGHT AGAINST STIGMA AND DISCRIMINATION IS NOT OVER: 53 COUNTRIES STILL HAVE HIV-SPECIFIC ENTRY AND RESIDENCE REGULATIONS FOR PEOPLE WITH HIV

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Background: Beside global advocacy efforts from the HIV-Community 53 countries still have HIV-specific restrictions for entry and residence in place. Out of these 53 countries 27 deport or threaten to deport PLHIV, 11 categorically deny entry and 13 have laws that restrict entry even for short term stays in place. The situation contributes to the discrimination of PLHIV.

Description: The ongoing documentation of HIV-specific restrictions at entry and residence carried out by community-activists let the creation of global database HIV-specific restrictions at www.hirestrictions.org. The gathered data from embassies around the world and the feedback from users of the database are an important source of information for mobile populations and foreign workers. The data demonstrate the relevance and importance of independent information, it contributes to the personal security and safety of PLHIV.

Lessons learned: The work demonstrates the importance of community-owned documentation. The “hype” around advocacy efforts is over or moved to other areas. When we started with this work 104 countries had restrictions in place. The situation certainly improved but it’s not over yet and it’s problematic to see that the global HIV-community other advocates does not address restrictions, for example in countries from the middle east that affect thousand of migrant workers, or uses upcoming sport events, like the World Cup in Qatar to mobilize communities while cross human rights violations against migrant workers in these countries are obvi

Conclusions/Next steps: The current situation is discriminatory, a violation of human rights and a huge burden for PLHIV. States and in some cases intergovernmental organizations dent to downplay the impact of discriminatory laws. There might be silence around this topic since the successes celebrated with the revision of law in the US. Yet, the figures we have demonstrate that the fight against state-based discrimination is far from over.

SOCIAL AND POLITICAL ADVOCACY AND MOBILIZATION

TUPEED420
AN INVESTIGATION INTO THE FUNCTIONALITY OF THE PROVINCIAL, DISTRICT AND LOCAL AIDS COUNCILS IN LIMPOPO PROVINCE, SOUTH AFRICA


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Background: The commitment of the South African Government to fight the spread of HIV is demonstrated through the existence of multi-sectoral AIDS Councils at National, Provincial and Local levels that serve to coordinate the AIDS response. The AIDS Councils in the Limpopo Province are governed by the Policy Framework. The purpose of this research was to investigate the functionality and effectiveness of the AIDS Councils in the Limpopo Province. The objectives were to identify challenges that hinder their effectiveness and to propose strategies to improve effectiveness of the co-ordination role. According to the Limpopo Provincial AIDS Council Policy Framework, AIDS Councils are considered to be functional if they are able to meet certain set criteria.

Methods: The study was conducted from May to July 2015, in all five districts of the Limpopo Province. The design of the research was descriptive and respondents were selected through purposive sampling. The study population consisted of HIV and AIDS co-ordinators. A semi-structured questionnaire and an AIDS Council functioning scale were distributed amongst 30 officials to gather both qualitative and quantitative data. The researchers applied composite frequency tables, pie and bar graphs to present quantitative data. Qualitative data was analysed through thematic analysis.

Results: The study revealed that AIDS councils are semi-functional in some Districts and Local municipalities, the capacity of AIDS Councils varies. Some of the challenges that hinder the functionality of AIDS Councils include the absence of dedicated secretariats, weak capacity of HIV and AIDS coordinators, competing priorities and irregularly held meetings. Various strategies were identified in order to deal with these challenges.

Conclusions: The functionality of AIDS Councils at all levels is crucial as it facilitates the multi-sectoral response. AIDS Councils also promote effective co-ordination of various structures so as to ensure that the goals of the Provincial Strategic Plan 2012-2016 are met.
TUPE421
LEAVING NO ONE BEHIND: AMPLIFYING VISIONS, VOICES AND PRIORITIES OF YOUNG MEN WHO HAVE SEX WITH MEN LIVING WITH HIV (MSM+) IN KISUMU COUNTY, KENYA
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Background: Research findings show high HIV prevalence among young MSM and are often unable to access HIV services, without facing stigma and discrimination based on age, gender, HIV status and sexual orientation as well as attitudes and norms around “appropriate” sexual behaviour. Creating spaces to recognize the voices, visions and priorities of young MSM and meaningfully and directly engaging them in decision making on HIV, can increase their visibility, reduce their fear of isolation, increase treatment access and retention, and inform development of appropriate services.

Description: A group of 25 young MSM + between the ages of 17 to 24, were enrolled through patient support centers and support groups. They received training on advocacy and education and formed an advocacy network to conduct face-to-face dialogues with key stakeholders groups. The advocacy network called for policy makers to encourage and support young MSM to engage in the design, development, implementation, monitoring and evaluation of HIV programmes. They also called for training opportunities to enable young MSM +, to become peer outreach workers, mentors and service providers themselves. They advocated decision makers invest resources in youth advocacy and support meaningful participation of young MSM +.

Lessons learned: “Amplifying Visions, Voices and Priorities of Young MSM living with HIV” has created spaces for increased involvement, increased their capacity to advocate, and better express their health needs. Programmatic evaluation indicated increased knowledge in meaningful involvement of communities’ concepts, including young MSM+, along with transparency and accountability in health resource allocation and spending. Qualitative evaluation at the end of the campaign showed increased knowledge and practice related to establishment and access to youth friendly HIV services, status disclosure, partner testing and adherence.

Conclusions/Next steps: Empowerment of young MSM+ followed by advocacy campaigns has demonstrated opportunity to empower MSM+ to raise awareness about HIV, combat stigma / isolation, and inform development of services, and holistic approaches for their health. It has helped in reaching other young MSM+ in urban settings in Kisumu County.

TUPE422
THE “DRUG STOCK-OUT KILLS! STOP IT” CAMPAIGN: COALITION, DATA AND DIPLOMACY DRIVE RESULTS IN UGANDA
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Background: Between October and December 2015, due to a combination of un-anticipated levels of patient enrollment and a weakening currency, Uganda faced a severe shortage of antiretroviral and anti-TB drugs. Approximately 250,000 patients were at risk of taking lower dosages drugs or none at all.

Description: The PATH-led USAID Advocacy for Better Health (ABH) project built a coalition of civil society organizations to elevate the looming stock-out crisis to the highest decision-making levels through an intensive, time-limited campaign. Key coalition activities included development of an up-to-date evidence dossier on district stock-outs; coordinated radio spots, press conferences and media tours; unique collaboration with the Inspector General of Police to organize face-to-face meetings with the Permanent Secretaries of Health and Finance and Speaker of Parliament; and strategic interface with advocacy champions, including representatives of the offices of the President and Prime Minister, First Lady, and a popular performing artist who publically disclosed their HIV status through the campaign. The government responded to the campaign with both short- and long-term measures. Ministry of Health redistributed drugs and front-loaded Global Fund budget for immediate purchase of drugs; Ministry of Finance and Parliament fast-tracked approval of a $200,000,000 loan and committed to increase the Ministry’s 2016/2017 budget. As stated by the Minister of Health, “The message had gotten home.”

Lessons learned: Data and diplomacy were key to presenting the coalition as credible, collaborative, and solution-oriented. Evidence presentation was the focus of media and decision-maker outreach, while direct engagement with policymakers was perceived as yielding greater dividends than would have mass communications. Consistent monitoring, data analysis and timely sharing of information ensured coalition members were armed with current findings and made message adherence and effective targeting possible. At the onset of ABH-project, decision-makers in

TUPE423
PREVENTION LITERACY: COMMUNITY-BASED ADVOCACY FOR ACCESS AND OWNERSHIP OF THE HIV PREVENTION TOOLKIT
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Background: Critical technological advances have yielded a toolkit of HIV prevention strategies. To take full advantage of these strategies, contextual and historical reflection is needed to bridge the gap from clinical efficacy to community effectiveness (i.e., knowledge and usage) of existing HIV prevention options.

Methods: Between January 2015-October 2015, we conducted a literature review to define treatment literacy and health literacy and assess the current need for literacy-related to HIV prevention. The review included searches in electronic data bases including, MEDLINE, PsycINFO, Pubmed, and Google Scholar. Permutations of the following search terms were used: “treatment literacy” “health literacy” and “prevention literacy”. Through an iterative process of analyses and searches, titles, abstracts and reference lists of retrieved articles were reviewed for additional articles and historical content analyses of grey literature and websites were additionally conducted.

Results: In contrast to treatment literacy (TL), a well-established concept, prevention literacy (PL) was scarcely referenced and undertheorized in the available literature. While TL emerged due to shift in emphasis from prevention to treatment as more effective antiretroviral therapies became available, PL is absent in recent surge of biomedical prevention strategies. Developed from popular pedagogy and grassroots efforts during an intense struggle for treatment access, TL addressed the need to extend access to underserved communities and low-income settings that might otherwise be excluded from access. Prevention efforts today include multimodal techniques, which jointly comprise a toolkit of biomedical, behavioral, and structural/environmental approaches. However, linkages to community advocacy and mobilization efforts are limited and challenges of HIV prevention parallel the history of treatment roughly 15 years ago (e.g., increasing biomedical options, inequitable access, and efficacy that improves with strategies used in combination). Success of prevention efforts depends on equity of access, community-based ownership, and multilevel support structures to enable usage and sustainability.

Conclusions: For existing HIV prevention efforts to be fully utilized, an urgent need exists to reflect on historical lessons and contextual realities (i.e., policies, financial constraints, biomedical patents), extend treatment access and treatment literacy, and to build a new struggle for prevention literacy and prevention access as integral to the global response to HIV.

TUPE424
ASSESSMENT OF CLIENT’S SATISFACTION WITH PUBLIC SERVICES: HEARING COMMUNITIES’ VOICES
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Background: In 2013-2015 All-Ukrainian Network of PLWH implemented the project “Improvement of administrative services in social sphere in selected regions of Ukraine”.

Objectives: 1. Building capacities of communities to monitor quality and integrity of public services. 2. Increase of civil society organization’s (CSOs’) capacities for building dialogue with state service providers on innovative approaches to services provision.
Description: The project covered 8 regions of Ukraine. Main activities:
1. Development of methodology and tools for assessing public services by representatives of HIV+ community.
2. Training of regional evaluators from local PLWH communities.
3. Assessment of recipients’ satisfaction, data analysis, development of recommendations.
4. Creation of regional working groups for local opportunities and resources analysis to change service delivery in accordance with the evaluation recommendations.
5. Development and implementation of regional action plans that take into account local conditions and needs.

Lessons learned: Accomplishments of the project:
The methodology for assessing the quality of public services were developed, consisting of client’s random interview to assess the satisfaction with services, on site assessment of services availability, mystery clients, and assessment of remote service delivery.
CSOs were involved in monitoring the government agencies. Evaluation of clients’ satisfaction with public services was provided in 55 organizations, 5036 recipients of public services were interviewed.
Regional action plans were developed by the regional working groups for each project site. The groups consisted of the local authorities and CSOs representatives.
The developed regional action plans were adopted by the main stakeholders and taken as their development strategy basis.
The designed methodology of PLWH community involvement into services’ quality evaluation is universal and can be applied in all areas related to the provision of public services.

Conclusions/Next steps: Plans for the future:
• Dissemination of the project results to other regions of Ukraine and in other areas of public services.
• Regular involvement of PLWH in public agencies monitoring.
Implementation of mechanisms to improve the availability of public services through advocacy and collective representation of interests by PLWH community.

**TUPEO245**
WHERE ARE THE MEN? ADDRESSING THE GLOBAL BLIND SPOT AROUND HETEROSEXUAL MEN IN THE HIV PANDEMIC

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Background: A growing body of evidence shows that men—of all sexualities but in particular heterosexual men—are significantly underrepresented in HIV and AIDS testing and treatment services but overrepresented in morbidity and mortality data—both in Sub-Saharan Africa and globally. HIV infections among men make up 52% of all new HIV infections globally. Studies consistently show that men’s testing is lower than women’s in most settings. When men do not know their HIV status, they are more likely to engage in unsafe sex practices and are thus much more likely to transmit HIV to their partners. They are less likely to access and adhere to treatment and more likely to need ongoing care and support—but burdens that detrimentally impact women as well as health systems. Men constitute almost 60% of AIDS-related deaths globally, and make up the majority of AIDS-related deaths in every region of the world. Young men are twice as likely to die an AIDS-related than HIV-infected adolescent women.
Description: Men’s low demand for and utilization of HIV services is a combination of socio-behavioural and structural factors. If the UNAIDS goal of 90-90-90 by 2020 is possible, it is pressing to increase men’s use of HIV services, and improve the supply and efficacy of HIV testing, treatment, and adherence services. Critically, this includes engaging men and boys in gender transformation. In this presentation Sonke Gender Justice will discuss evidence-based practices to increase men’s use of HIV services and improve the supply and efficacy of HIV testing, treatment, and adherence services. Critically, this includes engaging men and boys in gender transformation. In this presentation Sonke Gender Justice will discuss evidence-based practices to increase men’s use of HIV services, and improve the supply and efficacy of HIV testing, treatment, and adherence services. Critically, this includes engaging men and boys in gender transformation. In this presentation Sonke Gender Justice will discuss evidence-based practices to increase men’s use of HIV services, and improve the supply and efficacy of HIV testing, treatment, and adherence services. Critically, this includes engaging men and boys in gender transformation. In this presentation Sonke Gender Justice will discuss evidence-based practices to increase men’s use of HIV services, and improve the supply and efficacy of HIV testing, treatment, and adherence services.
Lessons learned: Key recommendations include the development of new policies and policy guidelines, community-based testing services, partner and workplace testing, self-testing, clinic navigators, male-only facilities or male-only hours, mass scale up of male circumcision, gender transformative small group and mass media interventions, and community mobilization strategies.
Conclusions/Next steps: If the global community stands a chance of curbing the AIDS epidemic, it is critical to address the gender norms—and the structural manifestations of these norms—that deter men from seeking much needed HIV prevention, treatment and care services.

**TUPEO246**
REGIONAL CONCEPT NOTES: LESSONS FROM THE FIRST WINDOW OF GLOBAL FUND SUBMISSIONS

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Background: Regional programs supported by the Global Fund to Fight AIDS, TB and Malaria provide a unique and critical space for advocacy for key populations. In 2015, ICASO and the Alliance synthesized lessons learned from regional concept notes (RCNs) submitted in 2014. The project documented case studies from three regions: Eastern Africa, Southern Africa, and the Middle East & North Africa and drew lessons and recommendations for improvement.
Description: This project was conducted between December 2014 and May 2015, including the concept note submission deadline of January 31, 2015. Desk research included reviews of relevant documents, such as draft and final concept notes, meeting minutes, and communications. Key informant interviews were conducted with a range of persons involved, including key population network representatives, proposed principal recipients, consultants, technical partners, and other stakeholders. An interview guide was developed and used for phone interviews. Once completed, the project increased understanding among key stakeholders of the time and financial investment involved in RCN development and highlighted the technical support needs for future submissions windows.

Lessons learned: Regional programs address contextual concerns such as reductions of HIV incidence and building the capacity of key population networks, and offer opportunities for civil society that may not be a given in national programs, especially where the political will does not exist to tackle stigma and discrimination. Yet the regional programs are burdened with the same requirements for concept note development, as those of national programs. The country coordinating mechanism/National AIDS Program endorsement requirement also presents a substantial drain. Overall, opportunities exist to increase efficiency, offset by the dire need to increase RCN-development funding allocations to better align the costs associated with the process. Finally, it should be recognized that few key population networks have the capacity to develop and lead RCN development. Capacity development for civil society organizations and key population networks should be integral to the RCN process.

Conclusions/Next steps: The regional program model fills an important gap and should be continued in the Global Fund’s next strategy 2017-2022. Increased technical and financial support should be provided to key populations involved in RCN processes to truly enable their meaningful involvement.

**TUPEO247**
DELIVERING HIV-RELATED COMMUNITY, STRUCTURAL AND SERVICE DEVELOPMENT INTERVENTIONS FOR MEN WHO HAVE SEX WITH MEN IN KENYA, TANZANIA, UGANDA AND ZIMBABWE: AN APPRAISAL OF THE SHARP PROGRAMME

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Background: In Kenya, Tanzania, Uganda and Zimbabwe, homosexuality is illegal, subject to severe social stigma and discrimination, and often coupled with state-sponsored violence. This environment hampers HIV prevention efforts among men who have sex with men (MSM), who are at a heightened risk of acquiring HIV. The Sexual Health & Rights Programme (SHARP) comprised a number of interventions that aimed to improve the social and political environment within which MSM live, and sensitize clinical services to the specific health and social care needs of MSM. This paper reports on a detailed appraisal of such interventions.

Methods: Adopting a rapid feedback approach, the study assessed each discrete intervention in relation to effectiveness, coverage, need, acceptability, feasibility, acceptability and cost. Data was collected via interviews and focus groups with staff and volunteers from seven SHARP-supported MSM-led community-based organisations (CBOs) who deliver HIV prevention and care interventions to MSM and analyse of routine monitoring data. Triangulation was facilitated by interviewing other local stakeholders familiar with the interventions delivered and their integration with other health and social care systems.

Results: Recognising the need for credible allies, all CBOs in SHARP had, following in-depth sensitisation training, partnered with state sanctioned clinical care providers to allow safe referral pathways to MSM in their localities. This had improved accessibility of sexual health services, although the nature of syndromic-only screening still posed a risk of missed STI diagnoses. Many CBOs have also achieved success in their engagement activities by starting from a position of facilitating holistic well-
being; providing safe spaces for socialising and resilience building among MSM. While some success in policy and lobbying efforts to improve the legal environment has been achieved, significant challenges still remain in safely gaining access and maintaining relationships to key decision makers in shifting political climates.

**Conclusions:** MSM led organisations have earned the trust of large sections of the community and are well-placed to facilitate access to health and social services essential to the well-being of MSM. While essential to the HIV response, both the successes and shortcomings of policy and lobbying interventions should be considered within the broader, largely hostile, political environment for MSM.

### COUPLES- OR FAMILY-CENTRED APPROACHES

**TUPED428**

**FAMILY CENTERED APPROACHES: REACHING SPOUSES, COUPLES AND FAMILIES FROM THE WORKPLACE**

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**Background:** Workplaces in most sectors in Sub Saharan Africa are largely dominated by men. 90% of employees in companies supported by the Swedish Workplace HIV/AIDS Programme are male, thus resulting in disproportionate access to HIV & AIDS information and services among men and their spouses. Gender inequalities still largely exist. These inequalities result in women being economically dependent on men putting women & men at further risk. Economic dependency of women on men limits ability to negotiate for safe sex.

**Description:** The main objective of the Family centered approach was to close the gap in access to information, prevention services, access to HTS and treatment between the employed men with their spouses and children. When a shared understanding and awareness of HIV & AIDS was created among workers and their spouses, an enabling environment for discussing issues such as safer sex, partner understanding and awareness of HIV & AIDS was created among workers and their spouses, an enabling environment for discussing issues such as safer sex, partner counselling, Couple testing and voluntary disclosure of HIV status was created at family level.

**Lessons learned:**

1. The information gap between spouses/partners regarding HIV transmission, progression, prevention and management was significantly reduced.
2. Inclusion of families in family wellness days increased uptake of HIV & AIDS testing as well as couple testing. On average uptake of testing in SWHAP
3. Spouses volunteered and were trained as community Peer Educators and Community Psychosocial Counsellors.
4. Formation of spousal clubs which evolved into income generating projects resulted in mutual support among syphilis and other STIs.
5. Parents equipped with skills to encourage in sexual communication with their teenage children promoting delayed debut and responsible sexual behavior.
6. Ripple effects have included spreading of HIV & AIDS information at community level; Some of the trained spouses also volunteer their services at the local clinics.

**Conclusions/Next steps:**

1. Inclusion of families into programs promote acceptability of workplace programs.
2. Inclusion of families promote increased uptake of testing, treatment and uptake of supplementary/nutritional support to affected families.
3. Inclusion of families results in greater openness and voluntary disclosure of HIV status.

**TUPED429**

**ACCEPTABILITY OF WOMAN-DELIVERED HIV SELF-TESTING TO THE MALE PARTNER: A QUALITATIVE STUDY OF ANTENATAL CLINIC-LINKED PARTICIPANTS IN BLANTYRE, MALAWI**

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**Background:** High rates of HIV transmission within established sexual relationships in Africa call for high uptake HIV testing strategies that reach both partners. HIV self-test (HIVST) kits enable novel strategies, including partner-delivered kits to encourage testing as a couple at home. We explored the acceptability of using antenatal clinics (ANCs) as recruitment points, building on strong PMTCT programmes in Malawi. We sought the views of women attending ANC and their male partners concerning partner-delivered HIVST kits, either alone or with different approaches aimed at encouraging subsequent linkage into care or prevention.

**Methods:** A formative qualitative study to inform the design of a trial including five focus group discussions (2 men only; 2 women only; and 3 mixed gender) was done with a total of 36 participants. Thematic content analysis was used to interpret the data.

**Results:** Providing HIVST kits to pregnant women to deliver to their male partners was highly acceptable to both women and men. Several men strongly preferred this approach to any alternative, as this allowed testing to fit into lifestyles that are characterised by extreme day-to-day economic pressures, including need to raise money each day for food. Both men and women disagreed that introducing woman-delivered HIVST would provoke intimate partner violence (IPV), stating that pregnant women should be culturally “immune” from IPV. Most men stated a preference to self-test alone, ideally followed by the opportunity to re-self-test as a couple. Regarding interventions for optimising linkage, both men and women felt that fixed financial incentives of ~ USD$2 would increase linkage. However, there were concerns: potential negative consequences included a perceived undue reward for having multiple pregnant partners if financial incentives were too high. A lottery incentive was considered overly disappointing for those who receive nothing towards their evening meal in this extremely poor setting. Phone call reminders were preferred to short messaging service (SMS), given the frequency of “junk” SMSs in this setting.

**Conclusions:** Partner-delivered HIVST through antenatal clinic was acceptable to both men and women. Feedback on additional linkage enablers will be used to alter pre-planned trial arms. Lottery-based interventions may not be as effective in settings with extreme poverty.

**TUPED430**

**PREPARING AND SUPPORTING CAREGIVERS IN THE HIV DISCLOSURE PROCESS TO INFECTED CHILDREN AND ADOLESCENTS: LESSONS FROM THE YÉGÉL PILOT INTERVENTION IN SENEGAL**


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**Background:** In accordance with WHO guideline on HIV disclosure counselling for children up to 12 years of age (2011), we developed a pilot intervention (YÉGÉl) in Senegal to prepare and to support caregivers (i.e. parents and primary careers) throughout the challenging process of paediatric HIV disclosure to infected children and adolescents. The communication describes the family-based pilot intervention and four main lessons learned.

**Description:** Between April 2013-October 2015, following a socio-anthropological study identifying institutional and parental barriers to paediatric HIV disclosure, the YÉGÉl pilot intervention was designed and implemented in two paediatric services in Senegal.
BACKGROUND: Nepal has a low concentrated epidemic with about 736,000 pregnancies every year (Nepal Report, 2012). The primary cause of pediatric HIV infection is mother-to-child transmission (MTCT), which can be reduced significantly by interventions that include antiretroviral (ARV) therapy and prophylaxis. Prevention of mother-to-child transmission (PMTCT) programs serve as critical entry points for maternal health care and nutrition support.

METHODS: Data was collected through a retrospective review of medical records of pregnant women who accessed antenatal and delivery services at Bharatpur Hospital from 2011-2015. In the study period, all 53,258 pregnant women registered at Bharatpur Hospital, ART Center, Bharatpur, Nepal were included. They were interviewed at delivery. Finally, an analysis of rapid testing and infant DNA Polymerase Chain Reaction (PCR) testing was done among babies. Only 2 infants were positive.

RESULTS: Results showed that there were high rates of antenatal testing resulted in early detection of HIV infection among pregnant women. There were high rates of ART initiation among mothers and ARV prophylaxis in infants. Out of 70 newborns registered, 3 died, 67 received 4 weeks of Neverapine prophylaxis and 63 babies completed the protocol. At 6 weeks from the birth, post DNA PCR testing was done among babies. Only 2 infants were positive.

CONCLUSIONS: The project demonstrates that ARV regimens can be implemented in low resource rural settings with marked decreases of MTCT. Increasing the coverage of PMTCT programs remains the primary challenge.

INCENTIVES, MICRO-FINANCE AND OTHER ECONOMIC SUPPORT

TUPE0432

THE PROMISE OF BEHAVIORAL ECONOMICS FOR HIV/AIDS TREATMENT AND CARE

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BACKGROUND: New strategies are needed to motivate behavior change on the HIV treatment and care cascade. Behavioral economics (BE) offers potential innovative approaches. BE provides a realistic model to explain individuals’ decisions by combining insights from psychology with microeconomic theory.

METHODS: We conducted a rapid systematic review of studies evaluating the effectiveness of interventions using BE to improve uptake of HIV testing, linkage to care, retention in care, and antiretroviral therapy (ART) adherence among people living with HIV. We searched MEDLINE/Pubmed (2010-2015) for experimental or quasi-experimental studies or prior reviews of interventions using BE approaches, including financial or in-kind incentives, contingency management, nudging, priming, and gamification. Our analysis focused on identifying the effectiveness and durability of BE approaches.

RESULTS: We identified 27 eligible studies.

HIV testing: Three demand-side studies and one supply-side study examined the effect of financial incentives on HIV testing and all found significant positive effects.

Linkage to care: One study found that incentives significantly increased linkage to care.

Retention in care: Five studies examined the effect of BE applications on retention in care: one study using vouchers, one study of a comprehensive intervention that included food and transport assistance, two studies using food rations, and one study that changed the default structure for clinic visits. All five studies reported significant positive effects.

ART adherence: We found 20 studies: nine studies assessed financial incentives, eleven assessed in-kind incentives (pries n=2), cell phones or cell phone plans (n=2), food rations (n=5), or community-based interventions including food and transportation assistance (n=2)). One intervention using financial incentives also incorporated gamification. Eight of the nine studies examining financial incentives had positive results, significantly increasing adherence. Studies examining food rations had mixed results. Six of the other studies had positive results. Seven studies on adherence assessed impact durability after incentives were withdrawn; two of them found positive effects post-intervention.

Conclusions: BE applications have demonstrated potential to enhance HIV treatment and care services. However, there is limited evidence about impact durability. Furthermore, most studies focused on financial and in-kind incentives; the full range of BE applications (e.g., priming, gamification, nudging) should be explored and incorporated in future interventions.

TUPE0433

CASH TRANSFERS FOR HIV PREVENTION IN YOUNG SOUTH AFRICAN WOMEN: WHAT DO THEY SPEND IT ON? HPTN 068 TRIAL

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BACKGROUND: Worldwide, cash transfers have traditionally been paid to adult women. Evidence from programmes providing cash transfers to adults has suggested that payments to women are likely to be used for the greater good of households, while payments to men may result in negative outcomes. More recently, research has examined the potential for using cash transfers for HIV prevention among adolescent women in sub-Saharan Africa. In the context of concerns about social grants in South Africa, we explored how cash transfers are spent by adolescent women.

METHODS: HPTN 068 was a 3-year randomized controlled trial to assess the impact of a cash transfer, conditioned on school attendance, on HIV incidence among young rural South African women. 2328 13-20 year old women were recruited and completed annual survey assessments. A longitudinal qualitative cohort was created with a sub-sample of 71 women (38 from intervention arm). Female, local language-speaking fieldworkers interviewed the participants. Outcomes were measured over the trial using questionnaires and semi-structured interviews.

RESULTS: A total of 207 adolescent women were interviewed at baseline: 108 intervention and 99 control group. Women who received the cash transfer were more likely to report spending on education and extracurricular activities, although the difference was not statistically significant. Differences were also observed in the spending on health and nutrition, with those in the intervention group more likely to report spending on health-related activities. Women in the intervention group were also more likely to report spending on entertainment and social activities.
young women twice annually. Interviews were recorded, translated and transcribed for coding and analysis in Atlas.ti.

Results: At each survey visit, young women reported their cash transfer spending. Cash transfer was mainly spent on toiletries (55.5%). This was followed by clothes (34.5%), school uniform or supplies (29.9%), mobile phones/airtime (29.3%), and hairdressing (28.5%). Spending on ‘negative’ items such as alcohol was very low (2.3%) and saving cash was rare. The qualitative data corroborated this information and suggested that ‘snacks at school’ was also a significant expenditure. There were almost no reports of negative impacts associated with receiving the cash. Indeed, the cash transfers were viewed as positive in terms of improving family relationships (especially with mothers), empowering young women through greater independence and facilitating peer acceptance through access to material goods.

Conclusions: Evidence from this study found no negative impacts of providing adolescent women with cash transfers; both in terms of spending and provision of cash to young women in impoverished environments. This corroborates previous research of social grants to adults women was not found to facilitate negative outcomes and suggests limited concerns with making payments to this young population.

TUPE435
Housing is health: Evidence of the impact of housing on HIV health outcomes from a harm reduction housing program
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Background: Prior research has demonstrated that stable housing is a key social determinant of the health of persons living with HIV/AIDS (PLWHA). In the U.S. and other countries, economic and social factors (e.g. substance use and criminal justice system involvement) often contribute to homelessness and housing instability among PLWHA. This program analysis describes an innovative harm reduction housing program and its impact on HIV health outcomes for homeless PLWHA in a small U.S. city.

Description: The program, Caracole, provides a scattered site supportive housing to homeless PLWHA in Cincinnati, Ohio, USA. Two years ago, the program adopted a “housing first” harm reduction-based approach to promote housing stability. The housing team includes case management, specialized housing support, and optional mental health services. The team coordinates services with a variety of other providers to meet participants’ holistic health and housing needs. These service partners include the local syringe exchange program, Planned Parenthood for testing and HIV education, medical treatment providers, mental health and substance abuse treatment agencies, shelters, outreach workers, and other housing programs.

Lessons learned: Program data demonstrates the importance of supportive housing for HIV health. Of 150 formerly homeless participants housed in the program between 2000 and 2015, the percent of participants achieving a healthy t-cell count (>500) increased from 40% at intake to 59% at last status. Participants achieving undetectable viral load increased from 62% at intake to 72% at last status. The majority of participants (72%) also maintained or increased income and decreased contact with the justice system. Adopting a harm reduction approach increased participants’ housing stability and was associated with better HIV health. For example, average housing tenure for participants with a healthy t-cell count was 3.9 years, compared with 2.6 years for participants with low t-cell counts.

Conclusions/Next steps: Safe and supportive housing is key to the health of PLWHA. This analysis demonstrates that harm reduction housing programs may help individuals stay stably housed and improve outcomes along the HIV/AIDS treatment cascade. Further research-practice collaborations should examine best practices for increasing housing stability and the impact of these practices on HIV-related and other health and social outcomes.

TUPE434
Motivating adolescents to take positive responsibility for their lives: Lessons learned from implementing a conditional cash-transfer intervention in three countries in Southern Africa
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Background: RHIVA is a school-based HIV prevention pilot project that aims to assess the effectiveness of two levels of intervention (Intervention 1: conditional cash transfer; and Intervention 2: conditional cash transfer plus enhanced life-skills materials) in changing adolescents’ behavior regarding their sexual reproductive health (SRHR) and their future!” materials that comprise youth-friendly SRHR and career development components.

Lessons learned: Although summative evaluation is currently on-going, preliminary evidence suggests that the incentive model is promoting a positive change in learners’ attitudes and behaviors toward their sexual reproductive health and their future. This comparative analysis gathered qualitative data through 5 FGD with CT beneficiaries, community health volunteers; support groups; community leaders, and OVC caregivers using FGD guides. Program narrative reports from the APHIAPlus

SAFE HOUSING, SOCIAL PROTECTION AND OTHER CARE AND SUPPORT FOR THOSE AFFECTED BY HIV

TUPE436
Hits and misses of social protection: findings of a HIV-sensitivity comparative analysis of government and CSO social protection interventions in Kenya
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Background: HIV Prevalence in Kenya has a dialectical relationship with socioeconomic vulnerability in sub-Saharan. A lack of resources compromises livelihood and survival systems; which in turn creates concurrent financial and structural drivers and barriers to prevention, care and treatment services. Social protection (SP) aims to create a safety net and reinforce socio-economic stability, breaking the link between poverty and HIV transmission while simultaneously ameliorating the financial impact of HIV and AIDS’ on poor households. The Kenyan Government (GOK) promotes cash transfer-based (CT) SP while NGO-led programs adopt the OVC livelihood strengthening (LS) strategy to support HIV/AIDS management among vulnerable households.

Methods: The analysis examined and compared government-led CT and CSO Livelihood support interventions in order to inform design of comprehensive HIV-responsive SP models for addressing vulnerability across HIV/AIDS prevention continuum among the poor. This comparative analysis gathered qualitative data through 5 FGD with CT beneficiaries, community health volunteers; support groups; community leaders, and OVC caregivers using FGD guides. Program narrative reports from the APHIAPlus
The impact of poverty and limited access to resources increase vulnerability to HIV transmission, especially for African American women who encounter numerous social and economic barriers. By addressing the underlying trauma and other economic and social vulnerabilities to HIV, the goals of Common Threads are to increase self-esteem, HIV self-management, and vocational skills. These goals are highly associated with increased engagement in care, reduction in HIV transmissions and reduced health disparities.

Description: Common Threads is an integrated HIV prevention and vocational intervention program for African American women living with HIV/AIDS, which respond to the impact of trauma on women living with HIV and their vocational development. In addition to providing an overview of the Common Threads program and research that supports this approach, this presentation will utilize interactive activities to support an engaging and positive environment.

Lessons learned: Both quantitative and qualitative data related to program outcomes will be shared. We will report quantitative data for an initial program evaluation that indicates that participants gained knowledge on health prevention, demonstrated a decrease in HIV-related stigma and increased engagement in health care. Participants also reported increased willingness to disclose their HIV status and share their life experiences with friends, family, and their community members. They also indicated increased financial and social stability.

Conclusions/Next steps: Current policies and initiatives call for further integration of social determinants of health into HIV/AIDS prevention and care interventions. Poverty, stigma, and the lack of social support are fueling the transmission of HIV, especially among African American women who face multiple medical, psychological, financial/legal and vocational vulnerabilities that limit their access to HIV care and the opportunity to pursue personal and financial empowerment.

**Development and Poverty Alleviation**

**TUPE437**

**Finding the Leader Within: Experience at the Botswana-Baylor Children’s Clinical Centre of Excellence (CCE)**

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**Background:** Due to widespread antiretroviral roll-out, children born with HIV are now surviving into adolescence and young adulthood. As they age, they are faced with new challenges including poor academic achievement and unemployment. In 2013, the Baylor COE opened the Baylor Bristol-Myers Squibb Phatsimong Adolescent Centre housing adolescent services, psycho-social support, library, computer labs and sports court – as a resource to support and rehabilitate adolescents with or without HIV using various interventions including Finding the Leader Within.

**Methods:** Finding the Leader Within is a year-long leadership program for out-of-school youth aged 16-25 years. The program was implemented in partnership with Stepping Stones International (SSI), a non-profit organization based in Mochudi, Botswana. The program ran four days a week and the curriculum was designed to give participants skills to gain meaningful employment (full-time, salaried). Participants completed lessons in leadership development, career and vocational development, healthy and productive lifestyle education, financial and business literacy, computer literacy, and optional English class. To graduate, participants were required to successfully complete at least 80% of the curriculum. Trainers included adolescent services staff, social workers, clinical psychologist and vocational facilitators. Seed funding was provided by SSI.

**Results:** In April 2015, a founding class of 38 out-of-school youth aged 18 to 25 (24 Female) were enrolled. Their highest education levels were: primary (1); junior secondary (21), senior secondary (14), and part tertiary (2). In the end, 28 of 38 (74%) completed a minimum of the required 80% of the curriculum. The 10 drop-outs left the program early without completing 25% of the curriculum for various reasons: found meaningful job (4), went back to school (1), became ill (1), and unknown (4).

**Conclusions:** Finding the Leader Within is an effective intervention for school drop-outs. Maximizing the outcomes of the Leadership Program calls for skilled facilitators, diversifying skills training, securing adequate funding, and employing a full-time coordinator, and developing connections with employers in the community.

**TUPE438**

**Common Threads: A Peer-LED Integrated Prevention, Trauma-Informed and Vocational Development Training for Women Living with HIV**

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**Background:** The objective of this presentation is to increase awareness and skills related to the need to implement trauma-informed vocational and HIV prevention interventions for African American women with HIV. Common Threads recognizes

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TUPED440
MOVING TOWARDS A STIGMA-FREE LOUISIANA: A HOLISTIC APPROACH TO ADDRESSING LAYERED STIGMA AND DISCRIMINATION TO ENHANCE ACCESS TO HIV/STI SERVICES IN THE SOUTHERN UNITED STATES

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Background: In 2014, the Louisiana Public Health Institute in collaboration with 13 agencies from diverse sectors was funded by the U.S. Office of Minority Health to enhance access to HIV/STI services for young Black men living with and at risk for HIV infection; strengthen collaboration and referral systems among agencies; and address the social and economic barriers to services.

Description: As a result of Louisiana’s high HIV/AIDS and social indicators (e.g., stigma, incarceration, and homelessness), this initiative in New Orleans and Baton Rouge:
1) provides care coordination and job supportive services for criminal justice involved Black men;
2) convenes Historical Black Colleges and Universities (HBCUs) in Louisiana to promote HIV awareness and stigma reduction efforts on college campuses;
3) conducts mystery shopping with housing providers to document housing discrimination experienced by young Black men;
4) implements anti-discrimination trainings with large employers; and
5) engages people living with HIV infection to lead and implement the HIV Stigma Index Project.

Lessons learned: Qualitative results revealed that the development of two integrated centers (one in New Orleans and Baton Rouge) consisting of 13 agencies has increased coordination and collaboration among partners to address the needs and barriers of young Black men. Initiative partners have developed formal relationships with employers to increase the number of Black men that are gainfully employed over time. It is important to conduct follow up with young Black men in order to identify changing needs and barriers to services over time. The HIV Stigma Index project has built ownership and research capacity of PLWHA to develop local approaches and solutions to HIV stigma and discrimination.

Conclusions/Next steps: Funding has been secured to connect the Orleans Parish Prison with the Greater New Orleans Health Information Exchange in order to enhance coordination and quality of care provided for former prisoners. Three hundred PLWHA will be interviewed as part of the HIV Stigma Index Project to document their personal experiences of stigma and discrimination. The results will be used to develop local action plans. Mystery shopping with housing providers and convening of HBCUs will be conducted in 2016.

TUPED442
ADDRESSING THE INTERSECTIONAL ISSUES OF HIV AND AIDS THROUGH CAPACITY DEVELOPMENT OF ACADEMICS AND CURRICULUM
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Background: The Higher Education and Training HIV and AIDS (HEAIDS) is the flagship HIV prevention programme of South Africa’s National Department of Higher Education and Training (DHET). In aligning the programmes activities to the United Nations sustainable development goal number 16, HEAIDS received support from the country’s National Skills Fund to develop the capacity of academics to use the higher education curriculum to address social and developmental issues of the country.

Description: Twenty universities across the country received direct grants, to address capacity needs of academics. An analysis of their needs resulted in the development of 5 thematic areas which have been developed into capacity development workshops that are being facilitated across the universities. The Critical Diversity Literacy work implemented addressed the intersectional issues of HIV and AIDS.

Lessons learned: The Critical Diversity Literacy tool uses 8 analytical criteria to evaluate the presence of critical diversity literacy in any given social context. The workshop created a safe space to explore race, class, power and privilege thus addressing the many intersectional issues that pervade the HIV and AIDS and its persistence in society. Outcomes indicated that there were clearly psycho-social dimensions of the disease evident especially in the South African context. Participants were encouraged to confront their own biases and prejudices and develop an awareness of the role that may play in perpetuating the challenges that we experience with respect to stigma and discrimination. In this particular context, academics are enabled to explore how their attitudes, perceptions and behavior may influence their teaching. This awareness is encouraged within the transformation agenda. While HIV and AIDS is the entry point, the workshop created a conduit to speak to the broader social justice issues.

Conclusions/Next steps: Providing academics with the tools to confront their own realities, biases and prejudices has proven to be a critical entry point to the role that academics and exploring the agency of academics to use their curricular as a transformative tool in enabling their students to begin to shape and change the society that they live in and become better prepared to take their place as responsible and responsive citizens.
TUPE0443  
FEASIBILITY, ACCEPTABILITY, PRELIMINARY EFFICACY OF A STIGMA MANAGEMENT INTERVENTION FOR SPANISH-SPEAKING HIV-POSITIVE GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN

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Background: Globally, gay, bisexual, and other men who have sex with men (MSM) remain disproportionately affected by the HIV/AIDS epidemic. In Puerto Rico (PR), a third of all men with HIV are MSM and HIV incidence in this group has increased 126% since 2002. MSM are among the least likely to engage in HIV-related services, mostly due to the multiple types of stigma and discrimination experiences they are subjected to because of their sexual minority and HIV-status. Despite the evidence of the negative impact stigma has on populations affected by HIV/AIDS, limited attention has been placed to the development of interventions that address it. In this presentation we will discuss findings from the implementation of a stigma management intervention targeted to HIV+MSM.

Methods: Contexto, a six-week individual intervention targeted to Spanish-speaking HIV+MSM in PR, consists of three encounters with a health educator using motivational interviewing techniques. The intervention supports participants’ management of the negative impact of stigma related to HIV-status and sexual orientation/identity, and was developed using a convergent parallel mixed methods research design. Data for feasibility was collected through the resources and materials needed for the intervention, data about recruitment and retention rates informed acceptability, and preliminary efficacy was tested in a pre-post assessment. Analyses were completed using SPSS v.22.

Results: 98 participants’ charts were created and included materials used during the intervention (tools to assess readiness to take action, educational materials, worksheets for plan development, etc.). Of all participants approached, 56.2% were recruited. All of the participants have attended to at least one encounter with the health educator. Participants’ retention rate is 96.2%. In preliminary efficacy assessment, lower levels of HIV-felt stigma (p-value=0.001), gay stigma (p-value=0.001) and internalized homophobia (p-value=0.002) were reported.

Conclusions: The pilot assessment of this intervention targeted to HIV+MSM evidenced the feasibility of fostering skills to manage the impact of the interconnections of multiple sources of stigma, while building resilience to disclose HIV status and engage in care. Development of interventions to reduce the impact of stigma among diverse groups must consider the cultural context where implemented.

TUPE0445  
A PARTICIPATORY THEATRE INTERVENTION PILOT STUDY TO REDUCE STIGMA TOWARDS LESBIAN, GAY, BISEXUAL AND TRANSGENDER (LGBT) PEOPLE IN SWAZILAND AND LESOTHO

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Background: Stigma and discrimination targeting lesbian, gay, bisexual and transgender (LGBT) people compromise health and human rights. It is critical to address the stigma in Swaziland and Lesotho where LGBT rates are very high and the stigma is intense. The world. Scant research has explored effective strategies to reduce LGBT stigma in Southern Africa. We developed and piloted-tested a participatory theatre intervention to reduce stigma towards LGBT people in Swaziland and Lesotho.

Methods: This was a multi-centre pilot study. We conducted in-depth interviews with LGBT people (Swaziland: n=50; Lesotho: n=50) to enhance understanding of LGBT stigma. Local LGBT and theatre groups worked with this data to create 3 short skits to demonstrate stigma experienced by LGBT persons in healthcare, family, and community settings. We used purposive sampling to recruit nursing students, community members, healthcare providers, and educators in Swaziland and Lesotho as participants. Participants conducted a pre-test (Time 1) followed by a 2-hour participatory theatre intervention. Directly following the intervention participants conducted a post-test (Time 2), and participated in a focus group to explore reactions to the participatory theatre. Participants completed a survey 6 weeks post-intervention (Time 3). Mixed-effects regression was conducted to determine changes in LGBT stigma between the time points.

Results: There were no significant differences in LGBT stigma between Lesotho participants (n=57) [mean age: 27.7; SD: 9.5; gender: men 35%, women 65%] and Swazi participants (n=49) [mean age: 26.7; SD: 6.5; gender: men 40%, women 60%] at pre/post intervention so findings are combined across sites. LGBT stigma from Time 1 to Time 2 decreased 5.7% (95% CI: -9.2, -2.2; p< 0.01). The mean score change from Time 1 to Time 3 was 5.6% (95% CI -11.9, 0.7, p=0.08). Focus group participants discussed increased understanding of LGBT stigma and discrimination; sexual and gender diversity; and increased self-knowledge of personal biases.

Conclusions: Findings reveal initial decreases in LGBT stigma following a participatory theatre intervention in Swaziland and Lesotho. Changes were not sustained at 6-week follow up, however, highlighting the need for booster sessions or alternative approaches to reinforce anti-stigma messaging. Qualitative findings suggest that participatory theatre holds promise in promoting understanding and self-reflexivity regarding LGBT issues.

TUPE0444  
WHAT WORKS TO PREVENT AND RESPOND TO VIOLENCE FOR FEMALE SEX WORKERS (FSW), MEN WHO HAVE SEX WITH MEN (MSM) AND PEOPLE WHO INJECT DRUGS (PWID): A SYSTEMATIC REVIEW

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Background: Structural factors contextualize individual-level risks for HIV acquisition and transmission; especially within key populations. Despite their distinctions, key populations including MSM, FSW and PWID share social harms including criminalization and marginalization of occupation, sexual identity, and practices; together these factors hinder the coverage and uptake of effective HIV prevention and treatment responses. The need to prevent and respond to violence as a component of an effective HIV response is clear, though less is known about the content of these interventions.

Methods: We systematically reviewed the literature characterizing violence-related interventions for MSM, FSW or PWID across the three components of a comprehensive GRR response, including prevention, protection such as support services, and accountability such as legal and policy action. A comprehensive and systematic search protocol was iteratively developed including databases for both peer-reviewed and non-peer-reviewed reports. Our objectives were to characterize violence interventions, the level(s) at which they were implemented, and the quality of evidence of their success.

Results: Of 2890 (770 MSM, 1461 FSW, 749 PWID) peer-reviewed articles and 1040 (301 MSM, 476 FSW, 263 PWID) reports identified, 40 (15 MSM, 19 FSW, 6 PWID, not mutually exclusive) met inclusion criteria, representing 14 countries. Structural level interventions including safe environments for PWID and FSWs, and policy changes for MSM, enhanced safety. An integrated intervention for FSWs blending empowerment and police training improved safety and reduced violence. Individual level interventions included violence screening for MSM, and targeted violence response services for MSM and FSWs; where evaluated, rapid response mechanisms increased case reporting. Violence-related safety promotion and risk reduction counseling for FSWs reduced violence in some settings but not others. Quantitative evaluations were limited (18 total; 5 MSM, 9 FSW, 6 PWID).

Conclusions: Violence prevention and response interventions for MSM, FSWs and PWIDs span individual, community and structural levels, with qualitative evidence of promising practices at each level. Rigorous quantitative evaluations are limited. Implementation research approaches represent a potential methodology to facilitate the rigorous evaluations needed for promising practices to facilitate scale and assess improvements in HIV prevention, treatment, and human rights outcomes when adequate scaled.
background: The Swedish Workplace HIV/AIDS Programme (SWHAP) is a joint initiative of the Swedish Research Council (VIR) and funded by Swedish Development Cooperation Agency (SIDA). The Program primarily targeted Swedish linked organizations. The program is currently implemented in 10 countries in East and Southern Africa. 365 workplaces in 127 companies in 10 countries with 32 000 employees running workplace programs with average of 69% HTS uptake among partners. description: The current partners have developed extensive capacity and expertise in developing, implementing, and managing their workplace programs. The next step was to extend the program to contractors and suppliers - Supply chain with HIV/AIDS workplace programs and mentor neighboring companies to have the same. The main objective of the program was to develop the capacity to fight HIV/AIDS in the supply chain. Supply chain, in this case, refers to the role to which Supply Chain company’s and Swedish companies are exposed to in respect of HIV/AIDS in the workplace. Maintain the Swedish company’s supply chain, Demonstrate leadership in the Southern Africa region in managing HIV/AIDS, Develop international quality practice on how the private sector responds to HIV/AIDS. The role played by the mentor company was to take the lead role in the implementation of the program. The mentor companies were responsible for coordination, logistics, training, monitoring and evaluation and continuously liaised with service providers to support HTS. Lessons learned: To date the SWHAP programme has supported 50 companies at 57 work sites and have reached 15 114 workers with HIV/AIDS information, developed policies, built capacity among PEs and committees and conducted HTS. 1. The program has succeeded in minimizing HIV risk among the Swedish Companies. 2. Demonedicated leadership at national levels in private sector workplace program development. 3. Mentorship process a progressive and innovative way to cascade learning from workplaces and spread best practices. conclusions/next steps: 1. Supply chain programs have proved their impact and are very successful based best practice from the mentor company 2. Replication of model to more companies 3. Recommend to other development partners to take up similar initiatives.

TUPEE448
THE ROLE OF INDIGENOUS KNOWLEDGE IN HIV COMMUNICATION, PREVENTION, TREATMENT, CARE AND SUPPORT IN MALAWI

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Background: Indigenous knowledge (IK) is the basis for local-level decision making to solve local problems. In Malawi experiences has shown that behavior change interventions, based on models of diffusion of knowledge, change and innovation using participatory approaches and common impemeral media have not been fully effective. A study was therefore conducted to assess the role of IK in HIV prevention, treatment, care and support. methods: This was a cross-sectional and qualitative study comprising in-depth and key informant interviews as well as focus group discussions. Data were collected in ten main cultural sites of Malawi including two suburban cultures from two major cities, Lilongwe and Blantyre. The secondary data collection was done through desk reviews of literature. The research focused on two major areas: Role of IK in (a) HIV prevention, treatment, care and support; and (b) Communication strategies. results: 98% of respondents accept that IK can play a role in HIV prevention. The study shows that 53% (78 of 146) maintain that respect for parents’ and elders’ counsel is primary in HIV prevention. In order to implement IK for HIV prevention there is need to manage westernization and modernization and eradicate negative behavioral patterns. A majority (101 of 146) of respondents identified one to one education and counselling as appropriate media and channels for communicating IK. Most people (121 of 146) believe herbs can be used to treat AIDS particularly boosting the immune system. conclusions: In order to implement IK for prevention, treatment, care and support there is need to manage westernization and modernization. There is also need to manage stigmatization of those who want to live by positive IK. To implement IK for HIV treatment a number of challenges need to be resolved. These include scarcity and cost of local herbs, religious beliefs and traditions, belief in modern medicine, stigmatization and denial among others.

TUPEE447
COMPLEMENTARY AND INTEGRATIVE HEALTH (CHI) USE IN OLDER ADULTS WITH HIV

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Background: People living with HIV report higher CHI utilization than the general population but little is known about CHI use in older adults with HIV (OAWH). This study examines differences between OAWH CHI users and non-users, and examines if CHI use mediates the relationship between HIV-stigma and psychological wellbeing (PWB).

methods: We used data from the Research on Older Adults with HIV study (ROAH; N = 914), which recruited HIV-positive participants aged 50 and older via New York City organizations in 2005 using a non-probability purposive sampling technique. PWB was assessed with Ryff’s six dimensional measure (1989), stigma with the HIV Stigma Scale (Berger et al., 2001), and CHI use was self-reported. Data were analyzed for group differences using t-tests and chi-square analyses. Structural equation modeling (SEM) was used for mediation analysis.

results: The ROAH sample was 71% male, the mean age was 55.5 years, 87% were racial/ethnic minorities and 34% were sexual minorities. Twenty-nine percent were using CHI, with body based methods (e.g., chiropractic) most frequent (14%), followed by alternative medical systems (e.g., acupuncture; 13%), biologically-based therapies (e.g., herbs; 12%), mind-body interventions (e.g., meditation; 6%), and energy therapies (e.g., reiki; 2%). CHI users were significantly more likely to have an AIDS diagnosis, be working, and identify as a sexual minority than non-CHI users. The SEM model showed a good fit; RMSEA=.058, 95% CI [.053, .063]. CHI use was positively associated with PWB (β = .09) and partially mediated the association between HIV-stigma and PWB. The negative relationship between HIV-stigma and CHI use was significant only for sexual minorities (β = –.18), while the positive effect of CHI use on PWB was significant only for heterosexuals (β = .12).

conclusions: Finding that CHI use is associated with better PWB highlights the salience of developing and examining CHI interventions for OAWH. Given the negative association of HIV-stigma on CHI use in sexual minorities, ASOs are encouraged to provide CHI to mitigate the HIV-stigma clients may perceive outside ASOs. CH providers can extend their outreach to OAWH by proving welcoming messages to counteract HIV-stigma such as including “HIV” in the list of conditions treated.

Voluntary Counselling and Testing Programmes and other Approaches to HIV testing such as Community-Based Testing and Self-Testing

TUPEE449
INVESTIGATING FEASIBILITY AND ACCEPTABILITY OF A RAPID HIV SELF-TESTING DEVICE IN ADOLESCENTS AND YOUNG ADULTS

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Background: While HIV counseling and testing (HCT) are traditionally available from clinics and day hospitals in South Africa, most adolescents do access these and do not know their status. Adding HIV self-testing to the option menu may afford an opportunity to test for those who would otherwise delay testing. The objective of the current study was to investigate the usability and acceptability of an HIV rapid self-testing device in adolescents and young adults (16-25) at the Desmond Tutu HIV Foundation Youth Centre and Mobile Clinic.

Traditional and Complementary Approaches
TUPEE450
SCALING UP STANDARDS, TESTING AND LINKAGE TO CARE: IMPLEMENTATION OF A PORTUGUESE COMMUNITY-BASED SCREENING NETWORK

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2GAT - Grupo de Ativistas em Tratamentos, Checkpoints, Lisbon, Portugal

Background: Portugal has 60-65.000 people living with HIV, 20-25.000 are undiagnosed. Every year over 1.000 new people are diagnosed with HIV and late presentation is very frequent (49,1% in 2014), making it one of the most expressive epidemics in Western Europe. Validity of the national surveillance data on Hepatitis has never been evaluated. Since 2011, NGO GAT provides tailored community-based counselling, testing and linkage to care in Portugal for HIV priority groups and, since 2012, engaged in a joint action with other community based structures to promote access to prevention, scale-up testing and to gather surveillance data for advocacy and funding. Neither national recommendations nor surveillance systems are established to monitor prevention, testing and linkage to care outside formal health structures.

Methods: Since May 2015, GAT is promoting the creation of a Community-based Screening Network, according to ECD, UNAIDS and WHO recommendations, that enabled cooperative training, centralised laboratory supervision (partnership with Sáo João Hospital Centre), integrated HIV, HBV, HCV and syphilis screenings roll-out for analysis using SPSS 2.0 software.

Results: Since August 2015, 13 organizations were incorporated, totaling 24 testing points (including 7 mobile units). Over 65 people received training to offer and perform all 4 tests and collect surveillance indicators. During 2015 (pre and post network), 9786 HIV tests (206 reactive), 1962 HBV (37 reactive), 2467 HCV (71 reactive) and 4538 syphilis tests (168 reactive) were performed. Of the viral hepatitis and syphilis reactive results, 234 (84,8%) were HIV negative. From October to January 2015, 665 users of these community based testing services accepted to be enrolled and 4538 syphilis tests (168 reactive) were performed. Of the viral hepatitis and syphilis reactive results, 234 (84,8%) were HIV negative. From October to January 2015, 665 users of these community based testing services accepted to be enrolled.

Conclusions: The results of this study show that HIV self-testing with the AtomoRapid device was highly acceptable and that adolescents and young people can accurately use the device. Further research may investigate how much further support is needed to ensure that self-testing is undertaken safely.

TUPEE451
REACHING THE FIRST 90: INDEX CASE HIV TESTING AND THE ROLE OF A COMMUNITY MODEL OF CARE IN TETE, MOZAMBIQUE

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Background: Community-based HIV testing and counseling (HTC) is an essential WHO-recommended complement to facility-based testing. Médecins Sans Frontières and the Mozambican Ministry of Health in Tete introduced Community ART groups (CAGs), a community-based strategy to simplify ART access, in 2008. Since 2012, the CAGs potential to promote community testing through an index case strategy and linkage to care has been explored at the community-level. This analysis describes the outcomes of this approach.

Methods: Retrospective analysis of routinely collected data included persons tested in the community between July 2012 and December 2014. Positivity rate was stratified by age, sex and testing referral method: immediate CAG family member (spouse, sibling, child or parent), other CAG contact (non-immediate family member or neighbor), other referral (community leader, community health worker or activist referral) or self-referral.

Results: The analysis included 16,750 persons tested in the community: 61% were female and the median age of individuals was 20 [13-34]. HIV positivity of 5% was observed. Positivity dropped from 19% (69/355) in 2012 to 4% (418/11116) in 2014. The proportion of tests carried out on CAG family members decreased from 13% in 2013 to 6% in 2014.

Immediate CAGs-family members had higher HIV-positivity rates (9%) compared to other CAG contacts (4%); among non-CAG contacts, self-referrals had a higher positivity rate (8%) compared to other linkage to testing methods (4%). Among youth (15-24), positivity was higher in females (4%) than males (2%). Among adults >25 years, positivity was higher among males (8%) than females (6%). 2% of children <15 years tested positive overall. 4% among immediate CAG family contacts, 1% among other CAG contacts, 1% among other referrals and 3% among self-referrals.

Conclusions: Community-based HTC activities increased testing among populations who typically do not utilize health services. The strategy identifying relatives of CAG contacts and self-referrals is a simple way to reach high risk populations where saturation was reached relatively quickly. Further investigation of strategies promoting testing via CAGs and other groups of PLHA at community level is essential to increase the yield of community testing, HCT coverage, and linkage to care.

TUPEE452
SCALING UP HIV TESTING AND COUNSELLING AMONG INDIGENOUS RURAL DWELLERS USING VOLUNTEERS AS TESTERS AND COUNSELLORS: THE CASE OF HAf MOBILE HTC PROJECT IN EKITI STATE, NIGERIA

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Background: HIV testing and counselling (HTC) is the entry point into care, treatment and support for persons in need. Getting the needed human resource to support scaling-up remains a major challenge in Ekiti State. In 2013, in response to the HTC service gap, Ekiti State HIV program development project it through the fund from World Bank supported local government authority to rapidly scale up innovative approaches in HTC targeting the rural people.

Methods: The program was designed to compliment facility based HTC and to support Local Authorities to take HIV services to the door steps of rural dwellers using multivariate approach. The program was implemented in 16 local government Authorities in 43 rural communities using trained lay counsellors for mobile and house-to-house HTC between years 2013-2015. The team keyed into various socio-cultural events such as festivals, religious, Village square meetings and traditional ceremonies in the project communities to mobilize and increase access of the community members to HTC during the project period. Community outreach teams involving community head and opinion leaders were put in place to ensure the coordination and quality control of service delivered. Liquid hand wash elements and biohazard bags were used to ensure safety precautions. Lay counsellors and testers deployed paper-based HTC data, which later filled into a project electronic database to capture specifically the coverage and frequency of community HTC services delivery for analysis using SPSS 2.0 soft ware.
Results: The project provided HTC service to 309,123 individual (123,859 males, 185,123 females) increasing rural HTC target by 43%. The project contributed to about 23% of individual in the state who knows their HIV status. A total of 547 advocacy visits were conducted, 394,165 (384,339 male, 9,756 females) individual were reached with condom program, 1,950 individuals links and enrolled into care including 352 pregnant women enrolled into PMTCT. A total number 2004 reactive cases were referred for care and treatment.

Conclusions: Community participation in HTC planning, implementation and monitoring promote access to HIV services. HIV programmes that offer community-based HTC with good referral system, as a link to care will compliment facility-based HTC.

TUPEE453
COMMUNITY-BASED RAPID HIV TESTING FOR KEY POPULATIONS IN BRAZIL: WHO ARE WE REACHING?
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Background: Brazil’s HIV epidemic is largely concentrated among key populations whose HIV infection rates can be up to 20 times higher than those observed in the general population. Rapid HIV testing and counselling in community settings, delivered by trained lay peers, allows for easier access to HIV testing. Our goal was to present the percentage of positive HIV rapid tests and of first-time testers within the key populations targeted by the ‘Live Better Knowing’ programme, a nationwide initiative launched by the Brazilian Ministry of Health in close collaboration with NGOs.

Methods: Between January 2014 and April 2015, 53 Brazilian NGOs administered rapid oral fluid HIV tests (OraSure HIV-1/2 Bio-Manguinhos/Fiocruz) to sex workers (SW), men who have sex with men (MSM), transgender people and people who use drugs. HIV testing was offered in public places where these key populations commonly meet. Participants were interviewed by means of a brief questionnaire containing sociodemographic data and high-risk behaviour for HIV.

Results: In total, 29,713 participants were tested; 46.8% of them had never been tested before (approximately 60% among people who use drugs (PUD), 55% among MSM, and 50% among male SW). Prevalence of HIV positive results was 10.7% in transgender people; 4.7% in male SW; and 4.6% in MSM. Among transgender people who were also SW, the percentage of positive results was 13%; among those who were also DU, it was 5.3%. Among MSM who were also SW, this percentage was 8.1%.

Conclusions: Community-based rapid HIV testing delivered by peers reached key populations that had not previously accessed HIV testing. SW and DU were observed in all key populations tested within the project and, as such, must be treated as transversal. Furthermore, the high number of reactive tests and of people who had never before been tested highlight the need to further expand this strategy.

TUPEE454
EXPRESS TESTING SERVICE FOR GAY AND BISEXUAL MEN DOUBLES THE VOLUME AND FREQUENCY OF HIV TESTING FREQUENCY IN SYDNEY, AUSTRALIA: A COHORT STUDY
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Background: HIV infection in gay and other men who have sex with men (MSM) is an international public health concern and increasing HIV testing frequency is an important prevention goal. We assessed the impact of introducing an express clinic at an existing large sexual health centre on tests done, infections detected and repeat HIV testing in MSM in Sydney, Australia. The express service enabled men to attend without appointment, self-complete risk information and self-collect samples.

Methods: We established a retrospective cohort of asymptomatic MSM attending the centre from 2011-2013. In the period when express was introduced we calculated the number of HIV/STI tests and infections detected in the express clinic and overall at the centre. As testing guidelines recommend high-risk men test every 3-6 months, we used bivariate and multivariate regression methods to assess the independent association between service type (express or routine), and repeat testing within 6-months in higher-risk MSM (≥5 male partners in the preceding 3 months). Other co-variates included in the model included demographics and risk behaviours.

Results: The total number of HIV tests conducted in the 3-year study period was 14827 and 278 new HIV infections detected. Of these, 9121 HIV tests (62%) were conducted in the express clinic and 44 new infections were detected (0.48% positivity) (16% of all new HIV infections). Testing at the express clinic resulted in the centre increasing the total HIV tests done by over 2-fold; from 2908 in 2010 (year before Xpress was implemented) to 6470 in the final year of the express period. Among high-risk MSM, attending the express clinic was independently associated with repeat testing within 6 months of an initial test (adjusted OR=2.59, 95%CI:2.14-3.13, p< 0.001) compared to attending the routine clinic only.

Conclusions: In conclusion we found that introduction of an express testing service increased the capacity of the centre to offer substantially more HIV/STI testing, more infections were detected and higher-risk men were two-times more likely to use express HIV testing. Optimising current express test services should be adopted more widely to help achieve public health goals of increasing HIV testing frequency and detection of infections.

Key population

<table>
<thead>
<tr>
<th>% HIV reactive results</th>
<th>% Never tested for HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transgender people</td>
<td>10.7 (1,612)</td>
</tr>
<tr>
<td>Male SW</td>
<td>4.7 (1,051)</td>
</tr>
<tr>
<td>MSM</td>
<td>4.6 (5,364)</td>
</tr>
<tr>
<td>PUD</td>
<td>2.4 (4,215)</td>
</tr>
<tr>
<td>Female SW</td>
<td>1.5 (5,577)</td>
</tr>
<tr>
<td>Other people who were at places where testing occurred</td>
<td>1.2 (11,892)</td>
</tr>
<tr>
<td>Total</td>
<td>2.7 (29,711)</td>
</tr>
</tbody>
</table>

[Table 1. Prevalence of HIV tests in lifetime, HIV reactive results and Odds Ratio for HIV reactive results by category]
largest share of preferences (24.5%), twice that of the rapid testing currently done at public clinics. The share of preference drops to 9.9% when a $2 fee is included.

**Conclusions:** HIV test timeliness and accuracy, price and counselling availability are key determinants of individual preferences for HIV testing in a high-risk community of fisherfolk in Uganda. An oral HIV self-test with highly accurate and immediate results offered at no fee with counselling support could increase HIV test uptake.

**TUPEE456**

**PEER-BASED SERVICE DEVELOPMENT: A STRUCTURED AND TIMED EXPANSION OF COMMUNITY-BASED HIV TESTING FOR GAY MEN IN A HIGH-INCOME SETTING**

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**Background:** Rapid HIV tests have been licensed for diagnosis and/or screening at the point of care in most countries for many years, but were first licensed for this use in Australia only in December 2012. With historically high levels of testing through laboratory tests it took significant advocacy to facilitate their approval in Australia. This provided an opportunity to not just trial a ‘new’ technology, but to also develop models of service delivery that increase the testing options for gay and bisexual men in New South Wales (NSW), Australia.

**Description:** A new multidisciplinary testing service incorporating trained peer educators and sexual health nurses was first developed in partnership by ACON, NSW’s leading community-based HIV and LGBTI health organisation, and Sydney Sexual Health Centre, the largest publicly funded sexual health clinic in NSW. Trained peer educators perform rapid tests and provide results, explain STI specimen collection, while the nurse provides clinical supervision and collects venepuncture blood specimens for parallel HIV laboratory. Since mid-2013, capacity has increased from 12 appointments per week, to 241 per week across four sites.

**Lessons learned:** A staged expansion was essential to the success of the service in order to develop partnerships between the services and ensure that resources were used efficiently. Expansion to new sites was largely predicated on the existing services reaching capacity and the need to increase geographic coverage. The service has performed close to 10,000 tests with an HIV positivity rate of close to 1% and approximately 10% of clients have had at least one STI. Client feedback surveys with 374 clients have shown that 99% of clients liked peer-led testing and would return and recommend these services.

**Conclusions/Next steps:** A careful, staged expansion has allowed a community based rapid HIV testing service to go from being niche to one of the biggest HIV testing services for gay men in NSW in less than three years. The peer-based approach with the backing of clinical governance and expertise from specialist sexual health services has provided a popular and successful new service model, with 8% of gay men in a community survey reporting having used the service in 2015.

**TUPEE458**

**WORKPLACE-BASED WELLNESS PROGRAMMES PROVIDE ACCESS TO A SAFE SPACE FOR HIV TESTING**

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**Background:** Workplace-based health promotion programmes provide a platform for employees to access services and manage their health and wellbeing by conducting regular health screening. Further research needs to be undertaken to understand why the uptake of HIV testing was so low compared to other chronic health conditions.

**TUPEE459**

**KNOW IN ORDER TO ACT: TAKING HIV TESTING SERVICES TO VULNERABLE WORKERS**

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**Background:** In Zimbabwe, only half of those living with HIV know their status. Women and men in precarious informal employment typically work long hours and are unable to leave their operations to access health services unless they fall sick. This is particularly the case for men, who generally have poor health-seeking behaviour.

**Description:** A partnership between the private sector, civil society, and national service providers - under the ILO’s VCT@WORK campaign - took voluntary HIV testing and counselling services (VCT) to hard-to-reach workers, using a sectoral approach to encourage workers to know their HIV status. The targeted sectors were agriculture and small-scale mining operations, where many informal workers are employed. The focus of the 3-month campaign was on:

- small-holder sugar farming estates in Mkwase;
- operators in the informal economy who run individual small enterprises at designated sites in Harare; and
- small-scale mining operators involved in open-cast gold mining in the Bubi district.

**Mobilization was done through dissemination of IEC material and “edutainment”, including music and sport.** Group education provided information on the importance of knowing one’s HIV status, and on the modes of HIV transmission, prevention and treatment. Post-test counselling was done individually based on results. Workers welcomed the mobile VCT services at their workplaces, as illustrated by increased uptake of services. The campaign reached 31,060 workers with HIV prevention messages. A total of 13,368 workers undertook HIV testing, and 844 workers who tested positive were referred for care and support services.

**Lessons learned:**

1. The “one-stop shop” concept integrating HIV testing services with other health services is an effective and efficient way to reach farming, mining, and other communities in the informal economy.

2. Health education on HIV prevention focusing on perceived vulnerabilities, risks and perceived benefits increases uptake of HIV testing services.

**Conclusions/Next steps:** The partnership will work to strengthen linkages between marginalised working populations and the public health system for the extension of regular health services. In particular, the partnership will focus on integrating HIV testing services (HTS) with sexual and reproductive health rights and anti-drug abuse programmes, particularly for vulnerable young workers and women.
TUPEE459

ADRESSING HIV/HCV CO-INFECTION AMONG INJECTING DRUG USERS IN JAKARTA, INDONESIA, USING PEER-DRIVEN INTERVENTION

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Background: Co-infection with HIV and HCV is common among injecting drug users and can lead to various negative health outcomes, including long-term illness and death. In the Indonesian context, programme data indicates that HIV/HCV co-infection rates among IDU may range from 60% to 90%. In the absence of national surveillance data on HCV and HIV co-infection and low HCV testing and treatment rates, the Indonesian Drug Users Network implemented a peer-led intervention aimed at improving IDU knowledge of HCV, improving treatment access, and improving access to prevention, treatment and support services.

Description: Peer-driven intervention is an outreach model that relies on existing peer networks to reach and educate one another. Between August and December 2015, IDUs were recruited from urban sites in Jakarta using a coupon-referral system by which an initial community participant (‘seed’), after being recruited to the project, was then provided with recruitment coupons and trained to educate and enlist additional peers. Participants were interviewed by trained peer fieldworkers using a structured questionnaire, provided HIV and HCV prevention, treatment and care information and materials, and offered free HIV and HCV testing and counseling.

Lessons learned: Of a total 326 IDUs participating in the intervention, the majority were male (86.2%; N=281) and unemployed (57.6%; N=188). Among those who agreed to be screened for HIV (N=321), seropositivity was 52.6% (N=169), with slightly higher rates among men (53.9%; N=149) than women (44.4%; N=20). Nearly 9 in 10 participants (87.2%; N=282) were HCV antibody positive. Men had higher levels of HCV (89.5%; N=247) than women (77.7%; N=35). At least 1 in 2 male IDU (52.8%; N=146) and 1 in 3 female IDU (37.7%; N=117) was HCV/HIV co-infected.

Conclusion/Next steps: The PDI model effectively utilized peer networks to reach, educate and test IDU groups who had not previously accessed prevention services. This suggests that the active role of the drug user community in recruiting, educating and referring their peers is central to achieving better HIV/HCV service coverage, reducing injecting risk behavior leading to blood borne virus transmission, and improving treatment access.

TUPEE460

MOVING TOWARDS THE SECOND 90: LINKAGE TO CARE AND THE ROLE OF A COMMUNITY MODEL OF CARE IN TETE, MOZAMBIQUE

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Background: Community-based HIV testing and counseling (HTC) is an essential WHO-recommended complement to facility-based testing. Médecins Sans Frontières and the Mozambican Ministry of Health in Tete introduced Community ART groups (CAGs), a community-based strategy to simplify ART access, in 2008. Since 2012, the potential of CAGs to promote community testing and linkage to care has been explored at the community-level, including immediate connect of positive clients to CAG members and health facilities. The purpose of the analysis is to describe the linkage to care among individuals who tested positive in the community.

Methods: Retrospective analysis of routinely collected data included persons who tested positive in the community between July 2012 and December 2014. Individuals recorded in community testing registers were matched to electronic medical registers of facilities in Changara district. Linkage to care was defined as opening of a matched HIV file at a district facility within 6 months of test date. The linkage outcome was stratified by age, sex and testing referral method: immediate CAG family member (spouse, sibling, child or parent), other CAG contact (non-immediate family member or neighbor), other referral (community leader, community health worker or activist referral) or self-referral.

Results: Analysis included 772 positive persons, excluding forty individuals who had evidence of linking prior to community testing, 77% (697/772) linked within 6 months, including 82% in 2012, 70% in 2013 and 82% in 2014. 84% of children (<15), 75% of youth (15-24), and 78% of adults (≥25) linked to care within 6 months. Self-referrals had higher linkage (85%) compared to patients referred by immediate family members in CAGs (79%), other CAG contacts (77%) or other referral (73%). Among 435 patients linked within 6 months and initiated on treatment before April 2015, the retention in care at 6 months was 88%.

Conclusion: Community testing with support from CAGs showed high levels of linkage to care regardless of approach to referral and has great potential to help achieve ‘90-90-90’ targets. Further studies are needed to compare this approach with testing strategy at the health facility and community testing in areas without CAGs.

TUPEE461

DEMOGRAPHIC REGRESS AND COSTS ASSOCIATED WITH 3 MODELS OF COMMUNITY HIV TESTING IN RURAL KWAZULU-NATAL

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Background: The UNAIDS 90-90-90 targets demand HIV testing and counseling (HTC) for all clients of the population at risk of HIV acquisition. Community testing modalities may offer better access than HTC at health facilities to some difficult-to-reach groups but at additional cost, which requires justification.

Description: MSF implemented 3 modalities of community HIV testing in uThungulu District beginning in 2012: Fixed Sites (FS), Mobile Sites, (MS) and Door-to-Door (D2D). An ingredients approach was used to analyze costs associated with these testing modalities for 2014. Client structures were analyzed for men and women 15-59 years of age for each testing modality, and compared to those of health facilities (HF).

Lessons learned: Costs per client varied from ZAR 192.55-249.70; D2D testing had the lowest cost per client (Table 1).

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
<th>Cost/test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HIV test supplies</td>
<td>Test kits HIV/HIVs*</td>
<td>7.9 / 149.0</td>
</tr>
<tr>
<td>2. Salaries</td>
<td>Lay Counselor/ Community Health Agent (D2D)</td>
<td>9.8 / 11.2</td>
</tr>
<tr>
<td>3. Logistics</td>
<td>Sensitization, phones, equipment, transport</td>
<td>12.09</td>
</tr>
<tr>
<td>Total cost</td>
<td>1,513,646.00</td>
<td>2,678,751.00</td>
</tr>
<tr>
<td>Unit cost</td>
<td>212.95/ 231.44</td>
<td>231.21/ 249.70</td>
</tr>
</tbody>
</table>

[Cost analysis for 3 modalities of Community HIV Testing. All costs in South Africa Rand (2014); “all have test 1, only HIV+ have test 2]
TUPEE462
LESSONS LEARNT FROM HIV TESTING RAPID RESULTS INITIATIVE (RRI) CAMPAIGN, KENYA, 2014

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Background: The Kenya AIDS Indicator Survey (KIAS) 2012, showed that 53% of Kenyans with HIV were unaware of their HIV infection and a third of HIV-infected women, had taken their children for HIV testing. Targeted HIV testing is a key strategy that is outlined in the Kenya HIV Testing Guidelines (HTS).

Description: We conducted a 100 days rapid results initiative (RRI) campaign dubbed “Test and Link” that began in September 2014. Selected facilities throughout the country were purposively sampled based on programme HIV positivity yield data. HIV testing using rapid test kits was offered for all contacts of unknown status of index HIV-infected patients accessing HIV care clinics. HIV exposure was assessed for all infants accessing the Maternal Child Health (MCH) settings and subsequent collection of blood for Polymerase Chain Reaction (PCR) testing offered to all those whose exposure status could not be ascertained. Standard data collection tools were used to collect and collate data at facility level and transmit to the sub-county level and subsequently to the national level.

Lessons learned: HIV testing was carried out on 86% (n = 763,853) of the set target of 983,398 people. Of these, 67% (n = 601,032) comprised of contacts of index HIV-infected patients with 3.4% (n = 20,010) being HIV positive and 95% (19,017) of these being enrolled in care.

On average one contact was identified per index client and 38% of all identified contacts self-reported knowledge of their status. At the MCH setting, 17% (n = 150,287) mothers with unknown HIV status were tested with a positivity rate of 6%. Of the 1.5% (13,705) infants tested, 7.4% (n = 1,008) were HIV-infected and enrolled into care.

Conclusions/Next steps: The overall positivity rate from 2014 HIV testing programme data was 4.4%. Testing of contacts of index clients at the HIV care clinic yielded a lower positivity rate. However, testing of mothers with unknown HIV status accessing the MCH and infants with unknown HIV exposure status yielded a 3%-68% more positivity rate than observed from the programme data. Testing at MCH setting should be optimized when implementing targeted testing at a health facility.

TUPEE463
GENDER RESPONSIVE HIV PROGRAMMING

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Background: The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project integrates gender as part of its work to strengthen health systems and build improvement capacity. Gender integration rests on the understanding that achieving sustained and equitable improvement requires a gender-sensitive approach that takes the different needs, constraints, and opportunities of women, men, girls, and boys into account and responds to them strategically in program design, implementation, and evaluation.

Description: ASSIST partner WI-HER, LLC developed an innovative and effective six-step approach to integrate gender throughout the program cycle to improve health outcomes. The approach has been tested in a variety of programs and improved outcomes. In VMIC programs, it led to female partner involvement in the form of group education, couples HCT, offering health services for women such as HIV testing, counseling and cervical cancer screening, and community mobilization and education. In looking at quality of care, our improvement approach allows for the consideration of cultural and gender norms, and helps to identify unintended negative results from changes introduced.

Lessons learned: In Uganda, ASSIST improvement efforts in VMIC led to adherence to international standards of care and procedures. Integrating gender by involving female partners resulted in increased adherence to the WHO-recommended 48-hour follow-up and a decrease in adverse events. Our approach led to incorporating gender in VMIC assessment tools at the national level in Uganda and identifying the unintended negative consequences of prioritizing couples at VMIC services to encourage partner involvement (leaving single clients at a disadvantage), and newly circumcised boys dropping out of school (due to their new identity as men).

Conclusions: Future improvement work must include consideration and research of long-term consequences like these, as well as issues of consent and coercion; by examining power dynamics and cultural and gender norms that influence circumcision, we can work to ensure the true consent of the client.

TUPEE464
“SOME OF THE THINGS I SAID… I WAS SAYING THEM FOR THE FIRST TIME”: ADOLESCENT BOYS’ EXPERIENCES PARTICIPATING IN A SPLIT-SEX HIV PREVENTION PROGRAMME IN SOUTH AFRICA

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Background: The importance of engaging adolescent boys in HIV prevention has come to the forefront of the global agenda. We explored adolescents’ experiences and perceived relevance of participating in the UShitsinho programme, a split-sex curriculum focused on shifting male-dominant gender norms, implemented by the NGO Grassroot Soccer and delivered by community facilitators in South African high schools.

Methods: As part of a larger process evaluation conducted alongside a cluster-randomised trial, six focus group discussions (FGDs), three each in Cape Town and Port Elizabeth township communities, were conducted with adolescent boys between October and December 2014. FGDs were conducted in Xhosa by local research assistants, audio-recorded, translated and transcribed. A thematic analysis approach was employed, transcripts were coded using an inductive and iterative process.

Results: Overwhelmingly, adolescent boys enjoyed the split-sex curriculum, saying that it provided a safe space where they could comfortably discuss and seek advice on issues that they were not otherwise able to talk about. However, they wished that the programme provided the opportunity for more joint sessions with adolescent females, so they could better understand female perspectives and exchange views and expectations regarding relationships. Topics that were cited as the most useful revolved around learning how to respect and interact with a partner, as well as developing more self-respect and self-efficacy. The most common suggestions for improving the programme included: increasing the length and number of sessions; starting earlier in their adolescent years; addressing other issues that they faced in everyday life such as gangsterism; and including the opportunity for parents and friends to be involved. Boys thought that these factors could increase the extent to which they could translate what they had learned in the programme into something meaningful for their lives.

Conclusions: This work builds on other literature that discusses the pros and cons of split-sex sexual and reproductive health education for adolescents. Boys preferred the split-sex curriculum to be engaging and relevant to their needs, but highlighted the need for it to include more space for dialogue with adolescent girls. Reaching adolescent boys at a young age with relevant, split-and-combined sex programmes is a critical opportunity.
Background: South African men seek HIV treatment less and at a later stage, have lower testing rates, and are more likely to be lost to follow-up due to antiretroviral treatment (ART) than women. Norms of masculinity make it harder for men to access care because it is seen as a sign of weakness and femininity. Institutional supply-side barriers also contribute to men’s poor rates of testing and treatment. Recent evidence demonstrates that many South African men prefer to go to male-friendly clinics where they can be seen by male nurses and counsellors. In spite of the growing literature on clinic-based male-friendly services, there is a paucity of research on masculinities and HIV community health workers (CHWs).

CHWs play a central role in the provision of primary health care in South Africa. The deployment of an additional 20,000 CHWs is planned as part of the roll-out of care provision.

Methods:
• Multiple in-depth interviews with CHWs (N=8, 2 female and 6 male) and HIV and
• Multiple in-depth interviews with male clients and their CHWs (N=3); care provision.

Results: Many HIV-positive men may prefer gender concordant CHWs. Improved adherence and health outcomes was reported among men with gender concordant CHWs. In agreement with the literature on male-friendly clinic services, the rationale for CHWs.

Conclusions/Next steps: Micro-level estimates can be generated for the 36 states in Nigeria and FCT. These estimates will help to prioritize LGA most burden by HIV. Caution should be observed while programming based on the estimates since PLHIV access services across LGAs.

MOELLING, DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF HIV-RELATED POLICIES

TUPEE468
GENERATING MICRO-LEVEL HIV/AIDS ESTIMATES IN NIGERIA: FEDERAL CAPITAL TERRITORY AS CASE STUDY

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Background: Estimates are generated to provide programme managers with an approximation of persons needing certain services in a given population. In the face of dwindling resources to fight HIV/AIDS, many countries including Nigeria now focus intervention at the most burden populations. To achieve this, modelling of HIV estimates at micro-level has become necessary. In Nigeria, the burden of HIV differs from one location to the other. In many states of the country, the local government areas (LGA) have disproportionate burden of HIV due to the varying HIV prevalence and the population sizes. Presently, there are HIV estimates for all the states in Nigeria but they are not further disaggregated by the local government areas. Our focus was to generate local government estimates for HIV using the Federal Capital Territory (FCT) as the demonstration state.

Description: Using a Microsoft excel based model, we allocated the estimates generated from spectrum for FCT to the six area councils. HIV surveillance data from antenatal clinics and household surveys were used to generate estimates for FCT. The HIV prevalence trend generated from District Health Information System (DHIS) for PMTCT programme among women attending antenatal care in the six area councils were used to allocate the estimates for FCT to the area councils. Another variable that played key role in the model developed for allocation of HIV estimates to the area councils is the population size of each council.

Lessons learned: The estimated number of persons living with HIV (PLHIV) in FCT, number requiring ART and pregnant women needing PMTCT in year 2016 as allocated to the six area councils are shown in the table.

TUPEE467
HIV PATIENTS’ BARRIERS TO START ANTIRETROVIRAL TREATMENT (ART): THE GREEK EXPERIENCE

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Background: To assess the degree of discordance of perceived barriers to treatment initiation between physicians and treatment-naive HIV+individuals and to investigate possible physician and patient-described reasons for deferring treatment initiation.

Methods: Treatment-naive HIV+(individuals and their physicians from 8 sites in Greece completed independently a 59-item questionnaire about barriers and readiness to start/defer ART, assessing 11 domains. This is a sub-group analysis of the multi-national study of 442 patient-physician pairs in Australia and 9 European countries for the period 12/2011-10/2012. Regarding the readiness stages, concordance was measured using Kappa statistics. Answers were measured using a 5-point Likert-scale and discordance scores were calculated using the absolute difference between patient-physician answers. This score varied between 0 (same answer) and 3 (opposite answer). A score>2 defined discordance. Logistic regression was used to analyze factors associated with discordance.

Results: Between 3/2012-10/2012, 138 pairs of patients’ and physicians’ questionnaires were completed. 127/138 patients (92.3%) were male and 54% completed the questionnaire between 1.5 years since first HIV-positive test (median age 37 yrs-MSM 74%). Physicians were very experienced (82.4% cared for >50 patients and had>5yrs of experience). In Greece patients had higher readiness to start medication (24.15% replied “don’t need HIV meds at the moment” vs. 75.7% in total cohort, Fisher’s exact 0.270) and concordance regarding patients’ readiness was higher (Kappa 0.3421 vs 0.2736, indicates fair agreement). Most important reasons for patients not to start ART were “I am scared of the side effects it may cause” and “Worried my body shape might change if I start” (ART beliefs domain) and “I don’t want to think about HIV”. Discordance between physicians and IDUs was greater than that observed for MSM, stemming from health beliefs domain (similar to the total cohort) plus provider communication issues and social circumstances domain.
TUPEE468
MORTALITY ASSOCIATED WITH FASTER TRANSITIONS ALONG THE CASCADE OF CARE IN KWAZULU NATAL, SOUTH AFRICA

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Background: While major international HIV/AIDS agendas, such as UNAIDS “90-90-90,” call for quick movement along the cascade of care, little is understood about risk of mortality differences among those who select into transitioning faster vs slower. While individuals who link to care faster are more likely to receive treatment, they also may be entering care due to already poor HIV-related health. There are therefore opposing “illness” and “treatment” effects with regard to the relationship between speed of transition and mortality.

Methods: This study utilizes the Wellcome Trust Africa Centre Demographic Information System in rural KwaZulu-Natal, South Africa, a longitudinal health and demographic surveillance system composed mainly of annual household and individual survey data linked with HIV-related clinical records and laboratory results. We utilized survival analytic methods to estimate mortality differences among those who transitioned from first testing positive faster, slower, or never.

Results: 3,106 individuals met our criteria, with 410 recorded deaths among them. Contrary to expectations, those who were faster to transition had 1.34 (95%CI: 0.99-1.81) times the hazard of mortality compared to those care more slowly. However, the relationship between speed of transition and mortality is complicated. Those who were in the slowest to transition quartile had 0.62 (95%CI: 0.41-0.95) times the hazard of mortality compared to those who were never linked to care, while those in the fastest to transition quartile had 1.66 (95%CI: 1.16-2.38) times the hazard of mortality.

Conclusions: In this population, the illness effect outweighs the treatment effect in the relationship between faster transition to care with mortality. This suggests that improving and shortening linkage to care would have less of an impact on mortality among those who would not have otherwise self-selected into care. While this study is limited to mortality as an outcome, earlier linkage to care may have additional beneficial effects across other health and well-being outcomes.

TUPEE469
DO PATIENTS PREFER RECEIVING ANTIRETROVIRAL THERAPY AT A PRIMARY CARE FACILITY? EVIDENCE FROM A CHOICE EXPERIMENT IN NORTHEAST THAILAND

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Background: In Thailand as in many other countries, public hospitals play a major role in providing antiretroviral therapy (ART); however, it is becoming difficult for them to expand the number of patients receiving ART. In order to continue expanding the coverage effectively, shifting a task of providing ART from hospitals to primary care facilities (PCFs) should be a policy option. It is not clear, however, whether patients prefer to receive ART at PCFs and what factors might promote them to have such preference. Information is necessary for designing the delivery system of ART. This study explored patients’ preference for receiving ART at PCFs.

Methods: We conducted a labeled discrete choice experiment (DCE) with patients who were receiving ART at a tertiary hospital in northeastern Thailand. DCE is an attribute-based survey method for measuring preferences. The patients were asked to choose between two scenarios of ART provision, at the hospital or at PCFs located in the vicinity of the hospital. The provision options differed in five attributes: (1) type of clinic (special clinic for ART/general clinic), (2) service hours, (3) length of waiting time, (4) type of physician (general physician/HIV specialist), and (5) the amount of out-of-pocket payment. Data were analyzed using a conditional logistic regression model.

Results: Of 357 respondents, the average age was 41.2±7.5 and 52% were female. All attributes except service hours were significant in their decision to choose PCFs. Type of clinic, waiting time, and type of physician were relatively important attributes. Compared with a scenario comparable to the current situation where they have to wait for 4 hours to see an HIV specialist at the hospital, 43% of them prefer PCFs if a general physician can provide ART with less than 1 hour of waiting time.

Conclusions: This study showed that patients prefer to receive ART at PCFs, but their preference varied depending on the attributes of PCFs. Such information is valuable to facilitate policy making of shifting the task of providing ART from the hospital to PCFs in future.

TUPEE470
HOW INEXPENSIVE DOES PREP NEED TO BE IN ORDER TO DELIVER FAVORABLE VALUE IN RESOURCE CONSTRAINED SETTINGS

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Background: Pre-exposure prophylaxis (PrEP) has been shown to prevent HIV infection if taken consistently and adherence to PrEP has been demonstrated as feasible in resource limited settings. However, in spite its potential health benefit, PrEP is not implemented due to its cost. Our objective was to use a computer simulation to determine the cost necessary for PrEP to become cost-effective in limited resource settings.

Methods: We developed a deterministic computer simulation to inform HIV prevention decisions in Kenya. This simulation is composed of a probabilistic microsimulation of HIV progression and a deterministic compartmental model of HIV transmission in a hypothetical population. We conducted a simulation to estimate the health benefits, costs, and cost-effectiveness ratio over a twenty year time horizon for availability of PrEP compared to no PrEP for individuals with multiple concurrent sexual partners, explicitly considering adherence levels observed in clinical trials. In baseline analyses the cost of PrEP was estimated at $165/person per year, and in sensitivity analyses we identified the cost of PrEP necessary to bring the incremental cost effectiveness ratio (ICER) down to that of other programmatic priorities, in particular those consistent with WHO recommendations (willingness to pay threshold of $2,600/QALY).

Results: In the reference scenario the model predicted 1,513,474 new HIV infections estimated at $9.7 billion ($0.49 billion per year). The implementation of PrEP would aver 788,560 new infections over 20 years, for a total 1,248,164 QALYs gained. At its current cost of $0.42 billion per year, PrEP has lower value than other programmatic priorities (ICER $19,322). The cost of PrEP would need to decrease to $29 for it to have favorable value consistent with willingness to pay thresholds (ICER $2600/QALY). If targeted at those with the highest number of concurrent sexual partners (i.e. sex workers), PrEP would have favorable value at $57.

Conclusions: If the price of PrEP came down to $29, it would have favorable value and could become a key strategy for HIV prevention in East Africa. Further targeting to high risk groups would enhance its value.

TUPEE471
RESULTS OF TESTING COST-YIELD PRIORITIZATION MODEL FOR TEST AND TREAT IN BOTSWANA

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Background: The Government of Botswana is considering the adoption of a test and treat program that will achieve epidemiological control of HIV by 2020. The initiative will require creating an additional 129,000 patients by 2020, which amounts to retaining 95% of People Living with HIV (PLHIV) on treatment. In order to achieve this target it will be necessary to expand current HIV testing services (HTS) and in-
introduce HIV Self-Testing (HIVST), to intensify index testing, and to ensure universal routine HIV testing at key entry points.

**Description:** A comprehensive HTS model was developed and populated, drawing on government data and published literature to construct a cost per patient identified and linked to treatment using 20 unique testing approaches. The cost per patient linked to treatment was primarily a function of the expected proportion of positive test results (yield), the rates of linkage to care, and the cost per test under each testing approach. Testing approaches were prioritised based on their cost and efficiency with consideration for the maximum number of patients that could be identified using each testing strategy.

**Lessons learned:** In the first year, 2016, the cost per patient linked to treatment ranged from $17 to $282. Index testing, sex worker outreach, and TB screening all cost less than $21 per patient identified. The most expensive strategies are campaign and outreach for young women and outreach to men who have sex with men (MSM). With declining testing yields as the number of patients on treatment increases, identifying and linking additional patients in later years will require more tests, even with the highest yield and most cost-effective strategies used. By 2020, the minimum cost per patient linked to treatment will rise to $44, with the maximum cost at over $1,000.

**Conclusions/Next steps:** Reaching the treatment targets by 2020 will require increasing the total number of HIV tests conducted in 2020 by 2.4 times from the number completed in financial year 2014-2015, from approximately 400,000 to 950,000. In order for the health system to conduct this many additional tests HIVST will need to account for nearly half of all HIV tests conducted by 2020.

**TUPEE472**

**SIMPLE RULES FOR THE STRATEGIC ALLOCATION OF HIV PREVENTION INTERVENTIONS ACROSS GEOGRAPHIES**

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**Background:** Geographical heterogeneity in the HIV epidemic provides the opportunity to tailor intervention choices to local epidemiology and prioritise resources to those at highest risk. Such geographical prioritisation is increasingly being deployed in an attempt to make HIV prevention spending more efficient. Here, we compare candidate simple rules for the allocation of HIV prevention interventions across geographies to inform application of this strategy.

**Methods:** We explore different methods for the allocation of male circumcision, behaviour change, early ART and PrEP interventions across counties and cities (locations) in India. These strategies include:

1. ‘Restriction to priority locations’- locations are classified into prevalence categories (very high, high, medium and low prevalence) and all interventions are provided at maximum levels in locations of a prevalence category before moving to lower categories.
2. ‘Simple division’ approaches, where the total budget is divided across locations proportional to the number of PLHIV in each location. The subsequent intervention choices are either based on a national policy or tailored to the local epidemic. We compare the impact of these geographically tailored strategies with a nationally uniform approach, i.e. identical interventions across all locations, at a number of prevention budget levels using dynamic transmission modelling. We assess whether such geographically specific approaches perform better than country-wide policies.

**Results:** The ‘restriction to priority locations’ approach may avert up to 39% fewer infections than the nationally uniform approach. This is as interventions are provided to only a small number of locations, restricting the impact that is possible through not gaining the benefits of highly cost effective interventions in lower prevalence areas. The ‘simple division using national policy’ approach performs similarly to the nationally uniform approach as intervention choices are not tailored to local epidemiology. In contrast, the ‘simple division using local strategies’ approach performs consistently stronger, with up to 15% more infections averted compared to the nationally uniform approach through targeting resources to high burden locations and tailoring intervention choices.

**Conclusions:** The greatest impact is achieved through the ‘simple division using local strategies’, suggesting that prioritisation should take into account local epidemiology and not be restricted only to a small number of priority locations.

**TUPEE473**

**NEW CASE DETECTION THROUGH COMMUNITY HIV TESTING AND COUNSELING**

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**Background:** Cambodia’s Integrated Bio-Behavioral Survey (IBBSS) in 2014 indicated that an estimated 75,000 people currently live with HIV. The Cambodian government has put efforts into ensuring that all PLHIV know their HIV status by 2020. The current programme is facing challenges in reaching key populations (KPs), including MSM, TG, EW and PWID to receive HIV testing and counseling (HTC).

**Methods:** As part of the Flagship Consortium, KHANA collaborates with the National Center for HIV/AIDS, Dermatology and STD (NCHADS) of the Ministry of Health to deliver training for outreach workers from Implementing Partners (IPs) and Centers of Excellence. Joint monitoring visits from national counterparts and Flagship teams are conducted regularly to make sure IPs can perform HTC properly. Reactive cases are referred to confirmatory tests at health facilities and followed-up with support for enrollment in care and treatment. Both community and health facilities work together to detain PLHIV in care service till viral load suppression.

**Results:** Based on the programmatic report from Flagship and the Implementing Partners from January 2014 to September 2015, 71% of 37,185 of EW, 51% of 13,431 MSM, 29% of 1,829 TG, and 48% of 376 PWID were reached and provided with HTC (through community-based finger prick testing). It is of note that HIV positivity is (0.5%, 0.5%, 1.9%, 5.5% among EW, MSM, TG, and PWID respectively). It is recommended that the client tracking system, information update on new HIV cases and new case detection procedure (including HTC) be swiftly improved, regularly monitored and widely disseminated among key stakeholders to ensure timely and effective response.

**Conclusions:** The number of KPs having access to HTC is still low due to some factors, such as mobility of KPs, perceived lack of trust in and confidentiality of HIV test results, and unwilling to disclose HIV status because of stigma and discrimination. NCHADS and IPs also introduce a new approach called ‘IRIR’ (Identify, Reach, Intensify and Retain) aiming at reaching KPs to increase HIV testing, strengthens new case detection, and promoted health service update.

**TUPEE474**

**RESULTS FROM A PROCESS OF EVIDENCE SYNTHESIS AND POLICY DIALOGUE FOR COMPREHENSIVE HIV PREVENTION AND CARE FOR TRANSWOMEN IN PERU: A CASE STUDY**

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**Background:** Transwomen (TW) in Peru remain, by far, the community most affected by HIV, with prevalences over 20%, and low access to prevention, testing and care, resulting from stigma and social exclusion. However, a transition from traditional to combination prevention for key populations had not occurred. In 2014 an initiative emerged, consisting of a process of evidence synthesis for decision-making, and a policy dialogue among stakeholders, including the Ministry of Health (MoH), academia, civil society, TW leaders and international agencies. Such initiative supported the development and implementation of the first Plan for Comprehensive HIV Prevention and Care among TW in Peru.

**Methods:** A mixed-methods study to gather evidence for combination HIV prevention investigated stakeholders’ perspectives on existing and novel HIV prevention methods, assessed health systems’ needs and overall costs, and used mathematical modelling to estimate impact and cost-effectiveness of specific intervention combinations to reduce the HIV incidence burden among TW, with emphasis on sex workers, taking the system’s capacity into account. A community-led mapping of TW sex work settings was also conducted.

**Results:** Information about combination prevention is limited among communities and providers alike, and misconceptions lead to resistance to change; health facilities require improved processes to respond to new needs. The Mathematical Modelling predicted higher effectiveness and cost efficiency for various combinations of prevention strategies. Policy dialogue was fostered through a National Consultation which allowed for discussion of new evidence and avenues for change. From this platform, a new plan was devised, which includes new National Guidelines for HIV prevention, care and support; and country-level investment in infrastructure and equipment. In addition to biomedical strategies (i.e. enhanced testing linked to care, test and offer, improved condom provision; potentially PrEP), the plan ac-
TUPE475
USING MATHEMATICAL MODELING TO INFORM POLICY PLANNING, IMPLEMENTATION AND MONITORING: THE EXAMPLE OF VMMC SCALE UP IN EASTERN AND SOUTHERN AFRICA
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Background: Modeling can be a critical tool for HIV program planning, allowing users to estimate outcomes, such as HIV incidence, that are otherwise impossible to measure. In 2007, in light of evidence that voluntary male circumcision (VMMC) reduces HIV acquisition in men, WHO and UNAIDS prioritized 13 countries for rapid scale-up to 80% MC prevalence. Since then, models such as the Decision Maker’s Program Planning tool (DMPPPT) and the DMPPT 2 have been used to describe the epidemiologic impact and cost-effectiveness associated with MC scale-up. The authors explore the influence of these models on VMMC policies and programs at country and global levels.

Description: In 2011, results from the DMPPPT, a Microsoft-Excel-based modeling tool, demonstrated that VMMC scale-up would result in substantial reductions in HIV infection and lower health system costs. The analysis informed advocacy that led all priority countries to commit to reaching this goal, and was incorporated into the WHO-UNAIDS Joint Strategic Action Framework for VMMC in December 2011. In response to questions arising from implementation experience, a revised model (DMPPPT 2) enabled analyses of impact and cost-effectiveness by age group and subnational region starting in 2013. Results were incorporated into operational and strategic plans in Tanzania, Malawi, Uganda, South Africa and Swaziland, and informed global guidance from PEPFAR and UNAIDS. A new version (DMPPPT 2.1) allows countries to better monitor their proress by generating targets, assessing impacts to date, and disaggregating estimates by age and district. This information is critical to countries to move from scaling up VMMC to maintaining coverage levels, and to PEPFAR for Country Operational Planning.

Lessons learned: Modeling can be an effective tool for advocacy as well as strategic planning and monitoring. It is most useful when it is conducted in collaboration with country teams and addresses country-generated questions. Country ownership helps to ensure model results are incorporated into national strategies and implementation plans.

Conclusions/Next steps: Models can be used to mobilize, strategically implement, and monitor key programmatic elements in an HIV response. The ways in which modeling has informed VMMC programs and policy may be applicable to other HIV programs and interventions.

TUPE476
PEPFAR IN NIGERIA: PROMISE, PITFALLS AND POLICY
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Background: Approximately 3.5 million Nigerians live with HIV and only about 27% of individuals who need HIV medication get them through the US government funded PEPFAR program. Many reasons have been adduced for the inability of Nigeria to support the medication needs of its PLWHA.

With the recent rebasing of the Nigerian economy, Nigeria is now a middle income country with the potential to raise local funds and self fund its HIV programs but this is not happening yet. The US government has supported Nigeria’s PEPFAR program since 2004 but questions have been asked about how long the support would continue. There is also an ongoing aid effectiveness policy debate with regards to HIV/AIDS. The recent drop in oil prices has also raised questions about the ability of Nigeria to begin to transition to self fund its HIV/AIDS programs.

Description: Using questionnaires and conducting interviews with critical stakeholders such as the Ministry of Health, Development Partners, Donors, and Non-Governmental Organizations, we analyze the PEPFAR program in Nigeria. We also conducted a critical review of relevant literature involving PEPFAR donations to Nigeria. We also reviewed literature on the reports of donors, Country Aid Effectiveness reports and evaluations with a focus on Nigeria. From these we analyse the promise and pitfalls of the PEPFAR program in Nigeria. We also suggest policy change with regards to HIV/AIDS policy.

Lessons learned: From our analysis, we suggest effective coordination and accountability efforts which can help to transition from a PEPFAR supported program to a locally owned and directed program. More specifically, we highlight the technical, managerial, and political capacities required for effectively developing a self funded program for HIV/AIDS medications in Nigeria.

Conclusions/Next steps: Nigeria must begin to pay attention to domestic and alternative sources of raising funds to fund its HIV/AIDS programs and depend less on donors. This would potentially lead to improved access for people living with HIV/AIDS who need medication.

PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

TUPE477
USE OF AN HIV AND AIDS COMMODITY MANAGEMENT TOOL (DASHBOARD) TO IDENTIFY THE RISK AND PREVENT STOCK-OUTS OF ARVs IN WEST AFRICA: THE TOGO EXPERIENCE
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Background: Alerts on stock-outs of lifesaving antiretrovirals (ARVs) emerged in a number of countries in the West African region in 2012/2013. Several root causes have been identified, such as the lack of tools to improve the sharing of HIV and AIDS commodity information among stakeholders for faster decision making. Togo lacked the tools to estimate the number of patients at risk of missing their ARVs when stock-outs occurred.

Description: The USAID-funded SIAPS Program has developed and deployed the HIV and AIDS dashboard known as OSPSIDA in six West African countries. In December 2014, Togo was alerted to the risk of a stock-out of ARVs. SIAPS supported the National AIDS Control Program to use the dashboard to incorporate patient and commodity data to assess the impact of a potential stock-out on patients receiving ARVs.

Lessons learned: Updating OSPSIDA with 2014 data revealed that 71% of ARVs in use at Togo were at high risk of stock-out at the national level (months of stock was less than six months) putting 96% of patients at high risk of treatment interruption. The data in the dashboard showed that this risk should have been identified 6-9 months earlier. The improved use of data for decision making using this dashboard has resulted in detection of impending stock-outs up to six months earlier. The percentage of patients at high risk of treatment interruption (table 1) was reduced from 96% to less than 1% in November 2015.

Conclusions/Next steps: Deploying OSPSIDA in Togo has significantly enhanced the visibility of supply chain data for timely and evidence-based decisions that have contributed to the increased availability of HIV and AIDS products within a year. We strongly encourage other countries to use the dashboard as a tool to assess the number of HIV positive patients at risk of missing their ARVs to make the right decisions at the right time to prevent the hurried choices that are frequently made when a stock-out occurs.

<table>
<thead>
<tr>
<th>Month</th>
<th>Dec 14</th>
<th>Jan 15</th>
<th>Feb 15</th>
<th>Mar 15</th>
<th>Apr 15</th>
<th>May 15</th>
<th>Jun 15</th>
<th>Aug 15</th>
<th>Sep 15</th>
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</thead>
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<tr>
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<td>71</td>
<td>69</td>
<td>59</td>
<td>53</td>
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<td>24</td>
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<td>% of patients at high risk</td>
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<td>79</td>
<td>74</td>
<td>61</td>
<td>61</td>
<td>2</td>
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<td>&lt;1</td>
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</table>

(Table 1. Risk Assessment in Togo)
TUPEE478

“SELF-INITIATIVE SCM STRENGTHENING” APPROACH USED IN DECENTRALISATION OF ARV MANAGEMENT TO DISTRICT LEVEL TO INCREASE ACCESS OF ART FOR PEOPLE LIVING WITH AIDS: PILOT IN TWO PROVINCES IN INDONESIA

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Background:
Since the National HIV/AIDS Program’s establishment in the 1990s, the ARV supply chain for 14 drugs was managed at the central level. To expand coverage throughout this large country and address the growing number of service points, the HIV/AIDS Program launched the “SUF” activity in 2013, which decentralised the HIV/AIDS Program to the district level. A Pilot was initiated in 2014 to insure ARV SCM good practices at the district level.

Description:
Critical issues regarding ARV decentralization were anticipated, including the need for:
1. strong district health office (DHO) commitment
2. proper staff technical capability, and
3. standard drug storage facilities to manage 14 types of ARVs.

These critical issues must be addressed for smooth ARV decentralisation. In 2014-2015, the MoH initiated a Pilot in two provinces, Bali, on one island, and Riau, on eight islands, covering 12 districts, to identify methods for good ARV district decentralisation.

The Pilot used a locally developed “Self-Initiative SCM Strengthening” approach (SI-SCM-S) that is now institutionalized at the MoH as one means to strengthen SCM good practices.

This SI-SCM-S approach starts with building commitment among DHO staff for SCM. Second, a joint district SCM self-assessment by drug management and HIV Program staff is undertaken to identify SCM strengths and weaknesses. Third, the SCM self-assessment results are placed in a joint SCM “Corrective Action Plan” (CAP), consisting of planned activities to address SCM problems. Lastly, a training workshop is held to provide knowledge to address key SCM problems.

Lessons learned:
The SI-SCM-S approach did increase awareness and commitment of senior officers at DHOs for decentralisation of ARVs, included immediate improvements to storage facilities, and breakthrough policies regarding insufficient SCM human resources.

Also, the SI-SCM-S approach has significant, positive impact on the SCM good practices.

Finally, the SI-SCM-S can strengthen coordination and communication among staff.

Conclusions:
- DHOs with high commitment will more likely establish necessary coordination among program and drug managers, maintaining good SCM practices.
- SI-SCM-S helped all 12 Pilot districts achieved 80% of the Pilot indicators for SCM good practices and is now being used in other districts.

TUPEE479

SUPPLY CHAIN CONSIDERATIONS WHEN ROLLING OUT ‘TEST AND TREAT’ APPROACHES: A CASE STUDY OF UNIVERSAL TREATMENT FOR CHILDREN UNDER 15 YEARS IN UGANDA

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Background:
Following a review of the 2013 WHO recommendations and national data in August 2013, Uganda decided to treat all children under 15 years - or ‘Test and Treat’ - regardless of CD4 count or WHO staging. A total of 23,000 children in chronic care became newly eligible for treatment. The country also adopted Abacavir-based regimens as the preferred first line therapy for HIV-infected children.

CHAI set out to support the MoH to roll out these guidelines with minimal stock disruptions.

Description:
- The pediatric ARV quantification methodology was revised to include age and weight band breakdown thereby generating a more accurate forecast. Or - 

Lessons learned:
- There were no stock outs of pediatric formulations at national level between June and December 2014. Stock availability at facilities ranged between four and seven Months of Stock. Over 10,000 children in Pre-ART had been initiated on treatment by September 2015. Furthermore, these children were initiated on the preferred Abacavir formulations as compared to Zidovudine in line with the national quantification as shown by an increase in the number of packs consumed.

Conclusions:
- It is feasible to forecast accurately and mitigate prescriber preference by providing targeted quantification data to facilities. Where data isn’t available, consider collecting information from high-volume facilities that drive consumption. This is important where large numbers of people are expected to be put on treatment in a short time such as in ‘Test and Treat’ policies. Commodities for patients in care and anticipated to start treatment should be in-country before roll out to avoid stock outs.

TUPEE480

INVENTORY MANAGEMENT SYSTEM - LEVERAGING IT BASED PLATFORM TO STRENGTHEN SUPPLY CHAIN: EXPERIENCE FROM INDIA

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Background:
ART programme in India is currently providing free ART to 919414 PLHIV. Commodities are centrally procured and supplied to 1584 service delivery sites.

Diverse geography, varying logistics infrastructure and technology among different states poses challenges to maintain effective supply chain of ARTV drugs.

Description:
In 2013, NACO conceptualized a technology based initiative for improved access to HIV commodities for patients across India. The Inventory Management System (IMS) leverages bar-coding and web-based technologies to introduce an asset light, scalable solution for addressing the supply chain issues. It tracks inventory from supplier to individual patient dispensation in real time. The system has been successfully implemented across all ART centers, State ware houses and Suppliers.

Lessons learned:
- The implementation of IMS at the ART centres has positive impact not only on procurement and supply chain but also on patient management. The system has provided programme more visibility till grass root level.

Consistent usage of IMS across all inventory points, including dispensation has provided significantly improved understanding of inventory requirements across the country. With data on consignment through the inventory points, programme has a better appreciation of constraints faced in logistics and distribution of HIV commodities. Programme is now in the process of optimizing storage space and inventory handling processes to strengthen logistics.

The availability of patient appointment, dispensation and regimen data can be effectively used to predict requirements and recommend effective relocation to minimize losses and wastage. Demand forecasting also can be done more efficiently by developing forecasting algorithms based on inventory classification, rate of consumption, drug criticality and inventory replenishment policies.

The real time visibility to standardized data of 2.1 million patients has been leveraged by programme to get insights into retention cascade analysis, regimen based analysis, treatment effectiveness through adherence analysis, survival analysis, impact on treatment due to patient migration etc.

Conclusions:
- To achieve targets of 90-90-90 and ending AIDS as public health threat by 2030, maintaining uninterrupted supply chain and adherence becomes a necessity for any HIV programme. Use of IT based platforms can have a huge impact on resolving issues around supply chain, maintaining and monitoring adherence and patient portability.

TUPEE481

BIG DATA ANALYTICS FOR CONTRACT MANAGEMENT: STRENGTHENING MEDICINE SUPPLY SECURITY IN THE WORLD’S LARGEST HIV TREATMENT PROGRAMME

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1Ministry of Health, South African National Department of Health, Pretoria, South Africa, 2Clinton Health Access Initiative, Pretoria, South Africa

Background:
The South African National Department of Health (NDOH) manages the suppliers of antiretroviral medicines for the largest antiretroviral therapy programme in the world. The RSA Pharma-Database, a web-based reporting platform,
enables standardised reporting of all transactions from these suppliers. This information is used to generate supplier performance scorecards to inform proactive, remedial contract management actions.

**Description:** In 2013 the NDOH initiated routine contract management meetings with antiretroviral suppliers, creating a platform for transparent communication and problem-solving. This initiative soon expanded to include all pharmaceutical suppliers. The NDOH team identified the need for a standard system with which to measure and report on supplier performance. In support of this initiative, a standard reporting template was developed for suppliers to submit. Monthly reports of all transactions for 11 ‘clients’ on over 1000 line items were submitted in excel from approximately 89 suppliers. These reports were cleaned and collated in a time-consuming manual process. To address this challenge, in 2014 NDOH developed a web-based system to automate the reporting process. Three supplier score cards were then developed to assess supplier compliance with:

- a) delivery lead times,
- b) delivery on time in full (OTIF) and
- c) reporting requirements.

A composite scorecard was also developed incorporating the three performance measures. Thresholds were developed for each measure by reviewing the distribution of baseline performance.

**Lessons learned:** The standardised performance tools have allowed the contract management team to engage proactively and assertively with pharmaceutical suppliers, both during supplier meetings and in the instance of supply challenges. The use of the scorecards has also resulted in improved co-operation from suppliers, with greater acceptance of responsibility and accountability. In December 2015 the composite performance scores for the nine contracted antiretroviral suppliers were:

<table>
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<tr>
<th>Poor (Red)</th>
<th>Average (Amber)</th>
<th>Good (Green)</th>
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<tr>
<td>Three</td>
<td>Five</td>
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(Antiretroviral supplier performance, December 2015)

**Conclusions/Next steps:** The availability of ‘big data’ has enabled the implementation of objective supplier performance scorecards. With these tools the NDOH contract management team can engage suppliers proactively regarding poor performance that impacts on medicine availability.

**TUPEE482**

**USING MHEALTH TO IMPROVE MEDICINE AVAILABILITY AND SUPPLY CHAIN RESILIENCE: THE CASE OF LOPINAVIR/ritonavir**

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**South African National Department of Health, Pretoria, South Africa**

**Background:** The National Department of Health (NDOH) manages the contracted suppliers of antiretroviral medicines for the largest antiretroviral therapy programme in the world. Guided by international recommendations, the NDOH is creating a Visibility and Analytics Network (SVS) to provide end-to-end visibility in the public sector medicine supply chain. The Stock Visibility System (SVS), a mHealth intervention, provides visibility in the “last mile” of this supply chain and contributes to the overall VAN project. The objective of SVS is to access real-time data regarding medicine availability at primary health care (PHC) clinics. This enables proactive medicine supply management for improved supply chain resilience, and medicine availability.

**Description:** The SVS is a mobile application used to communicate data regarding the availability of antiretroviral and antiretroviral medicines, and vaccines at PHC clinics into a web-based platform. This information can be used in standardised or dynamic reports at National, Provincial and District levels. The SVS project initiated in 2014 and is active in KwaZulu-Natal, Gauteng, Limpopo and Eastern Cape Provinces at 1 249 PHC clinics, servicing an estimated 1.4 million ART patients.

- a) delivery lead times,
- b) delivery on time in full (OTIF) and
- c) reporting requirements.

A composite scorecard was also developed incorporating the three performance measures. Thresholds were developed for each measure by reviewing the distribution of baseline performance.

**Lessons learned:** The standardised performance tools have allowed the contract management team to engage proactively and assertively with pharmaceutical suppliers, both during supplier meetings and in the instance of supply challenges. The use of the scorecards has also resulted in improved co-operation from suppliers, with greater acceptance of responsibility and accountability. In December 2015 the composite performance scores for the nine contracted antiretroviral suppliers were:

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(Antiretroviral supplier performance, December 2015)

**Conclusions/Next steps:** The availability of ‘big data’ has enabled the implementation of objective supplier performance scorecards. With these tools the NDOH contract management team can engage suppliers proactively regarding poor performance that impacts on medicine availability.

**TUPEE483**

**IMPLEMENTATION OF AN ACTIVE CASE MANAGEMENT NETWORK TO IDENTIFY HIV-INFECTED INFANTS AND ACCELERATE THE INITIATION OF ANTIRETROVIRAL THERAPY, THAILAND 2015**

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1Global AIDS Program Thailand/Asia Regional Office, Thailand Ministry of Public Health U.S. CDC Collaboration, Nonthaburi, Thailand, 2Bureau of AIDS, TB and STIs, Ministry of Public Health, Nonthaburi, Thailand, 3Faculty of Medicine, Chulalongkorn University and HIV/NAT, Thai Red Cross AIDS Research Centers, Department of Pediatrics, Bangkok, Thailand, 4Siriraj Hospital, Bangkok, Thailand, 5Hattaya Hospital, Songkla, Thailand, 6Chiangrai Prachanukroh Hospital, Chiang Rai, Thailand, 7Ministry of Public Health, Department of Medical Sciences, Nonthaburi, Thailand, 8Faculty of Public Health, Department of Health, Nonthaburi, Thailand, 9Faculty of Associated Medical Sciences, Chiang Mai University, Department of Medical Technology, Chiang Mai, Thailand

**Background:** Early initiation of antiretroviral therapy (ART) among HIV-infected infants can reduce HIV/AIDS associated morbidity and mortality. In Thailand in 2012, only 52% of HIV-infected infants received ART in the first year of life. We implemented a National Active Case Management (ACM) Network to promote early ART initiation in August 2014.

**Methods:** Thailand’s 2014 HIV Treatment Guidelines recommend that HIV-exposed infants have HIV PCR testing at birth, 1 and 2-4 months. When an HIV-infected infant (HIV PCR) is identified, lab staff sends the result to the hospital. In addition, as part of the ACC, lab staff alert a regional case manager (CM) who contacts hospital staff to provide technical support, ensure prompt ART initiation, and support ART adherence among HIV-infected infants and mothers. We analyzed national data collected on HIV-infected infants by the ACC Network.

**Results:** During August 2014-December 2015, 101 infants had at least one positive HIV PCR. Mean age at first positive PCR was 93 days (range: 0-424) and 60% (59%) were female. Thirteen (13%) had a positive PCR result at birth; mean age 2.5 days (range: 0-8), and 88 (87%) had a positive result at other visits; mean age 106 days (range: 26-424). Among the 101 infants, 83 (82%) had received ART as of December 2015, 19 (23%) started ART before 2 months, 67 (81%) before 6 months, and 79 (99%) before one year of age. Among the 18 infants not receiving ART, 9 (50%) died, 6 (33%) lost to follow-up, and 3 (17%) were diagnosed HIV infection in December 2015. Mean age at ART initiation was 31 days (range: 15-52) for those HIV PCR positive at birth, and 129 days (range: 35-465) for those HIV PCR positive at other visits. The mean time from blood collection to notification of a regional CM about the positive result was 16 days (range: 0-41) and from notification of the CM until the infant started ART was 15 days (range: 0-140).

**Conclusions:** The ACC network has been successfully established and initial results suggest the Network is promoting early ART initiation. This Network may be adaptable to other settings.

**TUPEE484**

**INDEX CASE FINDING INITIATES FACILITATION IDENTIFICATION AND LINKAGE TO CARE OF CHILDREN AND YOUTH LIVING WITH HIV/AIDS**

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1Baylor College of Medicine Abbott Fund Children’s Clinical Center of Excellence, Lilongwe, Malawi, 2Baylor International Pediatric AIDS Initiative at Texas Children’s Hospital, Baylor College of Medicine, Houston, United States, 3Faculty of Health, Lilongwe, Malawi

**Background:** Early initiation of ART is critical to provide lifelong treatment and prevent transmission. This abstract presents findings from a study conducted in Malawi, a country with high burden of HIV and high ART coverage. The study aimed to identify index cases of HIV-infected children and map the barriers to care initiation.

**Methods:** The program was implemented July 2014 to April 2015 at Mponela Rural Hospital, a government-funded facility in Malawi. HIV-infected patients (index cases) enrolled in HIV services at the facility were screened, and those who reported untested household members were offered home or facility-based HIV testing and
counseling (HTC) by a community health worker (CHW). Household members found HIV-infected children enrolled in a follow-up program offering one-on-one home and facility-based follow-ups by CHWs.

Results: There were 461 (44.8%; 461/1030) index cases who reported untested children aged 1-24 years in the International Epidemiologic Databases to Evaluate AIDS (IeDEA) Pediatric Working Group. Of these index cases, 140 (32.5%) were male, median age (IQR) was 17 (16-18). In the adjusted analysis, girls, all regions compared to Latin-America, ages< 10 years and >10 years, enrolled< 2010, low-middle income countries, and CD4>500 cells/µL were less likely to initiate ART. Other ages, with an overall CI of ART initiation of 54.3% (95%CI:53.6-55.0) and 61.4% (95%CI:60.6-62.1) in East-Africa, 60.6% (CI:59.5-

61.7) in West-Africa, 66.7% (CI:66.4-67.1) in Southern Africa, 76.2% (CI:74.8-77.6) in the Asia-Pacific, and 76.9% (CI:74-79.2) in Latin-America. Median age at ART initiation varied across regions: 5 years in the Asia-Pacific and West-Africa, 7 years in East-Africa and Southern-Africa, 8 years (IQR:3-16) in Latin-America, and 10 years (IQR:5-15) in Central-Africa (p< 0.01), respectively. In the adjusted analysis, girls, all regions compared to Latin-America, ages< 10 years and >15 years, enrolled< 2010, low-middle income countries, and CD4>500 cells/µL were less likely to initiate ART.

Conclusions: In 2014, many obstacles to ART initiation remain with substantial inequities. Girls and those at the youngest and oldest ends of the paediatric age spectrum need more effective and targeted interventions to improve their access to ART initiation.

TUPEE487 THE IMPACT OF INCENTIVES ON UPTAKE OF HIV TESTING AMONG ADOLESCENTS IN A HIGH HIV PREVALENCE SETTING

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Background: Adolescents face substantial barriers in accessing HIV testing and nearly 70% of HIV-infected adolescents are undiagnosed. Incentivised testing has shown to increase uptake of HIV testing in marginalised groups. We investigated the impact of incentives on HIV testing uptake in adolescents aged 8-17 in Harare, Zimbabwe.

Methods: This study was nested within an anonymised community-based HIV prevalence surveillance. Households with children aged 8-17 years who had not previously undergone HIV testing were referred to primary healthcare clinics for diagnostic HIV testing. Participating households were randomised to receiving nothing (standard of care) or to either enter a prize draw (USD 10, USD 5 or nothing).

TUPEE488 ACCESS TO ART INITIATION AMONG HIV-INFECTED CHILDREN AGED 0-19 YEARS IN THE INTERNATIONAL EPIDEMIOLOGIC DATABASES TO EVALUATE AIDS (IeDEA) GLOBAL NETWORK, 2004-2014

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Presenting author email: voleriane.leroy@inserm.fr

Background: We performed a global analysis of the pre-ART retention cascade of HIV-infected children from HIV diagnosis to antiretroviral therapy (ART) initiation within the IeDEA network, from 2004 to 2014.

Methods: We pooled data from cohorts of the IeDEA network in the Asia-Pacific, sub-Saharan Africa, and Latin America. We included all HIV-1 infected children, aged 0-19 years and ART-naive at enrolment into HIV programs. We described the proportions of children initiating ART and the missed opportunities for ART initiation (death, loss to follow-up [LTFU], transfer) since program entry: enrolment or date of confirmed HIV diagnosis if this occurred second. We computed the cumulative incidence functions ( CIF) for ART initiation and analysed the determinants, accounting for death and LT FU as competing risks until 24 months.

Results: Among the 115,549 children included, 78,374 initiated ART (67.8%), 2.0% died, 4.5% were transferred-out, and 20.8% were LTFU before ART initiation. The 24-month CIF for ART initiation per region was 52.0% (95% Confidence Interval [CI] 50.6-53.3) in Central-Africa, 57.8% (CI:57.1-58.5) in East-Africa, 60.6% (CI:59.5-61.7) in West-Africa, 66.7% (CI:66.4-67.1) in Southern Africa, 76.2% (CI:74.8-77.6) in the Asia-Pacific, and 76.9% (CI:74-79.2) in Latin-America. Median age at ART initiation varied across regions: 5 years in the Asia-Pacific and West-Africa, 7 years in East-Africa and Southern-Africa, 8 years (IQR:3-16) in Latin-America, and 10 years (IQR:5-15) in Central-Africa (p< 0.01), respectively. In the adjusted analysis, girls, all regions compared to Latin-America, ages< 10 years and >15 years, enrolled< 2010, low-middle income countries, and CD4=500 cells/µL were less likely to initiate ART.

Conclusions: In 2014, many obstacles to ART initiation remain with substantial inequities. Girls and those at the youngest and oldest ends of the paediatric age spectrum need more effective and targeted interventions to improve their access to ART initiation.
picking 0.06, 0.07, 0.09, respectively) or receive USD 2 if they accessed diagnostic HIV testing. HIV testing was carried out with guardian consent for those aged <16 years and participant assent. Uptake of HIV testing was compared across the three groups.

Results: A total of 2841 children (79% of all eligible) from 2050 selected households participated. Median age was 12 (IQR 10-15) years and 53% were female. Of those eligible 98% (2796) were referred for diagnostic HIV testing, and of these 35.7% attended for testing.

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<th>Prize draw</th>
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<td>740 (36%)</td>
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<tr>
<td>Children randomised*</td>
<td>735 (26%)</td>
<td>1155 (41%)</td>
</tr>
<tr>
<td>Attended clinic</td>
<td>110 (15%)</td>
<td>554 (48%)</td>
</tr>
<tr>
<td>Diagnosed positive</td>
<td>0</td>
<td>4 (0.3%)</td>
</tr>
</tbody>
</table>

**TUPEE488**


L. Tsague1, E. Nyankesha1, A. Bacha1, A. Bollinger1, M. Oulare2, D. Chamla3, C. Kamenga1

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**Background:** Only 13% of children under 15 years living with HIV were receiving ART in 2014 in West and Central Africa Region (WCAR). To identify bottlenecks to pediatric ART, we conducted a multi-country assessment of the program’s enabling environment, supply and demand-side bottlenecks. We report on the supply-side bottlenecks and programmatic implications.

**Description:** During 2014-2015, data collection was conducted in 11 WCAR countries. Cambodia, Congo, Cote d’Ivoire, Gabon, Ghana, Guinea-Bissau, Liberia, Nigeria, Democratic Republic of Congo (DRC), Chad, and Togo—using standardized tools. We applied the Tanahashi framework to identify program bottlenecks across the cascade of comprehensive pediatric HIV programming (case identification, linkage, and ART initiation; retention and transition). Data collection included key informant interviews and data abstraction from registers in a sub-sample of purposively selected health facilities.

**Lessons learned:** A total of 399 health facilities were surveyed in 11 countries. Coverage of early infant HIV diagnosis (EID) services ranged from 1.0% in Chad to 34.5% in Cameroon. Proportion of ART sites providing pediatric ART ranged from 2% in Chad to 56% in Togo. PMTCT was the main entry point for early pediatric HIV case identification (99.5% of all DBS samples in Togo and 93.5% in Ghana). Median turn around time for EID ranged from 2.2 months in DRC to 3.5 months in Ghana. Coverage of PCR machines was inadequate in most countries (from none in Liberia and Guinea-Bissau to 23 in Nigeria). Assessment of final HIV-status at 18 months ranged from 24% in Ghana to 41% in Nigeria. Lack of pediatric HIV integration within routine Child Health services (e.g. immunization and hospitalization), adult ART treatment program were reported.

**Conclusions/Next steps:** Low service coverage (both diagnosis and treatment) and lack of integration pediatric HIV interventions into routine MNCH services seem to be the major bottlenecks to pediatric ART. PMTCT remains the main entry point for pediatric HIV case identification with poor retention by 2 years. Based on these findings, countries’ National Pediatric HIV programs are prioritizing pediatric HIV case-finding beyond PMTCT/EID entry points to optimize the yield, while increasing availability of quality ART services through decentralization, task-shifting and linkages with care and support interventions at community level.

**TUPEE489**

**ACCELERATING PEDIATRIC HIV CARE AND TREATMENT IN COTE D’IVOIRE FROM LESSON LEARNED TO ACTION PLAN**

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**Background:** In 2014, 40,000 children aged 0 - 15 were estimated to be living with HIV in Cote d’Ivoire. Pediatric ART coverage was very low at 18% while adult ART was at 76%. Identify and analyze the bottlenecks of the pediatric HIV program to design an acceleration plan to improve access to ART for children living with HIV in Cote d’Ivoire.

**Description:** A cross-sectional survey was conducted in 2015 to collect data and information related to the management of pediatric HIV program with a participatory evaluation. The survey covered the three levels of the health pyramid with 28 facilities (3 tertiary hospitals, 12 general hospitals and 14 health centers). An analysis of the survey data was done using SPSS software.

**Lessons learned:** The number of children on ART has slowly increased from 5,190 in 2010 to 6,932 in 2014. Access to Early Infant Diagnosis (EID) is low with 33% of facilities offering PMTCT services providing DBS sample collection for EID and 3 laboratories performing the PCR test but located in the capital city, Abidjan. Pediatric ART services is limited to 43 % of all PMTCT sites. In the sample of health facilities surveyed, a total of 4,172 children living with HIV were registered in care with only 2,900 (69.5%) on ART. Retention in care at 12 months among children on ART was estimated at 59%. Over two thirds of these children (70%) were followed at tertiary level. Main bottlenecks linked to HIV Pediatric program identified were low decen-tralization of EID, and pediatric ART, lack of qualified trained health workers, limited integration of pediatric HIV case-findings in other entry points than EID/PMTCT.

**Conclusions/Next steps:** The low coverage of Pediatric ART in Cote d’Ivoire is likely due to limited service coverage (both diagnosis and treatment) and lack of integration of pediatric HIV interventions into routine MNCH services. The country is developing an acceleration plan that will prioritize task shifting and decentralization of EID and ART services, while optimizing case-finding of children (< 15 years) through high yield entry points (adult ART program, malnutrition, immunization, hospitalization and tuberculosis program) and engaging parents and communities to improve the performance.

**TUPEE490**

**YOUTH ART ADHERENCE CLUBS: OUTCOMES FROM AN INNOVATIVE MODEL FOR HIV-POSITIVE YOUTH IN KAHLEFISHIA, SOUTH AFRICA**

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**Background:** Retaining youth, both anti-retroviral treatment [ART] ineligible and those on ART, remains challenging with higher rates of loss to follow-up (LTFU) than their adult counterparts. Adjusting the ART adherence club model for youth, enrolling ART ineligible youth to expose them to peers on ART and integrating family planning (FP), may address this challenge.

**Methods:** From March 2012-May 2015 HIV positive youth at a youth clinic (12-25 years old) were enrolled in Youth Clubs (YC). Those ART-ineligible, newly initiated and stable on ART were combined in groups of >20. Separate groups were formed for younger school attending and older youth. YCs were facilitated by a lay councilor with structured session guides. ART supply, FP and HIV clinical management were integrated within the model. We conducted a retrospective cohort analysis with LTFU defined as no YC or clinic contact from June-August 2015. We describe characteristics and retention outcomes using Kaplan-Meier methods stratified by enrolment category.

**Results:** 337 youth (21.7% ART-ineligible, 52.8% newly initiated and 25.5% stable on ART) enrolled in YCs contributing 414.8 person years to the analysis (median 1.2, interquartile range (IQR) 0.5-1.9). The majority were female (85.76%) with median age at YC enrolment of 22.3 years (IQR 20.3-23.7). 58 (17.2%) attended school clubs. Overall retention at 12 months was 81.7% [95% confidence interval (CI) 76.4-86.0] and varied by enrolment category (p-value 0.001): 52.9% (95% CI 40.0-64.2) ART-ineligible, 86.4% (95% CI 78.7-91.4) newly initiated and 94.3% (95% CI 85.4-96.8) stable on ART (Figure 1). Over the study period, 1 (3%) died, 101 (30.0%) transferred

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out (60 of whom graduated to adult care), and 71 (21.1%) were LTFU. 18 initiated ART and 84 became stable on ART.

Conclusions: The YC model supported high rates of retention among young adults on ART. ART ineligible youth remained difficult to retain despite integration into groups with youth on ART.

TUPEE491 DEPRESSION, ANTIRETROVIRAL THERAPY (ART) ADHERENCE (BY PARENTAL REPORT AND PLASMA ANTIRETROVIRAL LEVELS), AND ART RESPONSE IN YOUTH ENROLLED IN THE ADAPTED BLASINI DISCLOSURE INTERVENTION (aBDI) IN HAITI AND DOMINICAN REPUBLIC

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Background: Disclosure of their HIV status to perinatally HIV-infected (PHIV) youth is important for transition to independent living, ART adherence and prevention of further HIV transmission. Worldwide, however, few PHIV youth know their status. To assess the impact of structured disclosure using aBDI in PHIV ART patients in Haiti and Dominican Republic (DR), outcomes were compared pre- and post-disclosure in aBDI “completers”, and to outcomes in youth who discontinued aBDI participation before disclosure.

Methods: Data on depression symptoms using the Child Depression Inventory (CDI) and on ART adherence were collected in one-on-one interviews with 10.0-17.8 year-old non-disclosed youth and their caregivers at enrollment and 3-6 months post-disclosure in three centers (one DR children’s hospital and one DR and one Haiti center serving patients of all ages). Plasma efavirenz, nevirapine or lopinavir levels were quantified at enrollment and post-disclosure. Viral load and CD4 count measurements were collected by medical record review at enrollment and 3-6 months post-disclosure (in aBDI “completers”) or post-aBDI discontinuation.

Results: Of 115 caregiver/youth pairs enrolled, 93 (80.9%) accepted disclosure and were assessed post-disclosure; 22 declined disclosure (“aBDI discontinuation”). At enrollment, 23.3% of youth (34.9% of Haitian, 15.0% of DR youth (P<0.01) met CDI depression criteria. Median viral loads pre- and post-disclosure were higher in youth with sub-therapeutic than those with therapeutic antiretroviral levels (15,509 copies/ml versus < 40 copies/ml; P<.0001), and in youth whose caregivers reported missed doses during the last month than in others (8,614 copies/ml versus 49 copies/ml; P=.04), but did not differ by “perfect” adherence. Depressed youth had higher viral loads (median=5,560 copies/ml) and lower CD4 counts (median=480 cells/mm³) than non-depressed youth (median < 40 copies/ml, P=0.049; median=608 cells/mm³; P=.088). Among youth who completed aBDI, depression prevalence was lower post-disclosure (13.4%) than at enrollment, not differing significantly by country (14.3%, Haiti; 12.8%, DR). Median viral load tended to be higher post-aBDI discontinuation than post-disclosure (790 copies/ml versus < 40 copies/ml, P=19, NS); this difference was statistically significant only in participants in the two non-pediatric centers (38,533 versus 195 copies/ml; P=.016).

Conclusions: aBDI completion may be associated with decreased depression and improved viral suppression in pediatric ART patients.

TUPEE492 ADDRESSING THE LOW COVERAGE OF PEDIATRIC ART IN TOGO: FINDINGS FROM A NATIONAL SITUATION ANALYSIS, 2014

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Background: In Togo, there is still a wide gap in access to antiretroviral therapy (ART) between children (16%) and adults (45%). We assessed barriers to pediatric ART in view of informing strategic priorities towards 90-90-90 for children in Togo.

Methods: We applied the following pediatric ART program pillars: case identification, linkages and ART initiation, retention and transition. Within each pillar, we assessed gaps, and explored when applicable the barriers related to enabling environment, supply-side, demand-side, and quality of care and treatment services. Standardized questionnaire was used to abstract qualitative and quantitative data. To assess children’s outcomes on ART and quality of care, we abstracted data from 26 health facilities purposively sampled from all six regions. Strategic priorities were identified during a validation workshop.

Results: Nationally, in 2013, less than 14% of infants exposed to HIV were tested for HIV within their first two months of life. Children (0-14 years) represented 4% of the 254,199 HIV tests registered. Early infant HIV diagnosis (EID) was limited to 28% of the 864 MCH facilities, while routine provider-initiated HIV testing and counseling among sick children and adolescents was performed in only 20 out of 864 MCH facilities. Only 56% of 250 ART health facilities were providing pediatric HIV treatment. In the 26 sites surveyed, children represented 9.4% of all patients on ART. Compliance with national treatment protocols was 100%. Average age at ART initiation was 99 months and 24-month survival on ART was estimated at 61% pointing to late identification and initiation of treatment. Shortage of trained staff for HIV testing and ART management, frequent stock-outs of HIV test kits, limited geographic availability of pediatric ART centers, and complex procedures for enrolment in ART programme were identified as major bottlenecks.

Conclusions: Increasing geographic coverage of pediatric HIV testing, care and treatment services is a strategic priority to fast-track pediatric ART coverage. Scaling-up integration of pediatric HIV case-finding into child care (immunization and hospitalization) and into adult ART program is critical. Strengthening task shifting for ART initiation and improving retention in care are additional priorities.

TUPEE493 REACHING OUT TO CHILDREN OF PEOPLE LIVING WITH HIV/AIDS WITH HIV TESTING, CARE AND TREATMENT: PRELIMINARY RESULTS OF THE ACTIVE SEARCH FOR PEDIATRIC HIV/AIDS (ASPAI) STUDY IN CAMEROON

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Background: The World Health Organization (WHO) recommends index case HIV testing as a priority approach to increase uptake of HIV testing amongst children of people living with HIV/AIDS (PLHIV). We assessed the feasibility, usability and quality of a strategy in a health facility in Cameroon.
The New Horizons Advancing Pediatric HIV Care Initiative is a collaborative effort of Janssen, Elizabeth Glaser Pediatric AIDS Foundation, Partnership For Supply Chain Management, Imperial Health Sciences (IHS), and others to enhance access to sustainable and appropriate HIV care for treatment-experienced children and adolescents in sub-Saharan Africa and least-developed countries. Currently, Swaziland, Zambia, Kenya, Lesotho, and South Africa are participating, after an Expression-of-Interest and selection process. One component is a medicine donation program for PREZISTA™ (darunavir) and INSTIENCE™ (etravirine). To avoid conflict with the national health systems, the donation is distributed through the respective national HIV/AIDS distribution channels. As emphasized in the WHO Guidelines for Medicine Donations, regular monitoring and evaluation (M&E) of the program is an essential component within the New Horizons Initiative (NHI). A summary of the evaluation approach is provided here along with challenges and opportunities identified during the evaluation process.

Description: A unique framework has been developed to ensure that the logistical process and the M&E procedures are in line with the following guidelines: WHO Guidelines for Medicine Donations, Good Distribution Practices for Pharmaceutical Products, Good Storage Practices, Good Transportation Practices, Good Pharmacy Practice. A simple one-page M&E tool was designed for the NHI program based on these guidelines and additional efficiency measures have been included. First M&E assessments were undertaken in 2015: in Kenya, Zambia, and the intermedi warehousing in South Africa by IHS.

Lessons learned: All recipient countries were actively engaged in the M&E process. The framework was beneficial in better understanding recipient and donor challenges and collaboratively developing necessary remediation or continuous improvements. While different challenges were described in each country, some common opportunities for improvement were: forecasting and quantification of medicine needs, clearing customs, temperature monitoring and cooling, patient confidentiality, providing sufficient storage space, and managing shipment packing lists.

Conclusions/Next steps: Overall, M&E proves essential in shaping and reinforcing relationships between stakeholders thus strengthening the collaborative program. The New Horizons medicine donation M&E framework revealed opportunities and enabled partners to develop shared tools and individual action plans. Shared tools included a forecasting quantification tool and a utilization tool.

TUPE496 LEVERAGING-OF-OFF EXISTING PROGRAMS TO DELIVER SERVICES TO BROADER COMMUNITIES: A CASE OF A RURAL SCHOOL-BASED SEXUAL REPRODUCTIVE HEALTH AND RIGHTS PROGRAM IN SOUTH AFRICA

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Background: Youth and their households living in high HIV-prevalence areas often experience deprivation at multiple levels such as geographic, educational, economic, health and basic human-rights. Improving access to social protection services can mitigate the impact of the HIV epidemic as well contribute to strengthening HIV prevention and care among marginalised groups.

Methods: As part of the school-based clinic-linked SRHR program implemented by Khetic Impilo, a school-end initiative involving various partners, mobilized to deliver a one-day Health and Welfare Jamboree. Learners, educators and the broader community were invited to participate in a school cultural program Adolescent-Friendly Primary health Clinic. The SRHR & activities involved debates, dances, poetry and plays simultaneously with 14 services providers onsite to screen, educate, and treat with service-referral. Program staff together with various partners coordinated the logistics. Uptake of services was tracked through data registers at each service point measuring, age, gender, type of service accessed. Qualitative data was collected through interviews and video clips.

Results: The SRHR Jamboree involved learners from 4 secondary schools, educators and community members in a rural district in Kwa-Zulu Natal. A total of 1164 in- and out-of-school youth attended the SRHR education program. A headcount of 1355 accessed formal services at the various stations. A total of 210
395 children <5 years accessed services comprising of growth, nutrition support, immunization (63.7%), social-protection (30.6%) and documentation (14%). Adult headcounts (n=614) by serviced accessed included TB screening (14%), minor ailments (32.7%), hypertension/diabetes (22%). 67.2% of 177 BMI screening were adults. Amongst youth (1164), 29.8% accessed SRH&R services (n=346), comprising of family planning (25.7%) HTC (22%), VMMC (n=42), pap-smears (n=5) and 6% were referred for nutritional support.

Conclusions: The findings suggest that health and welfare service uptake by leveraging-off existing platforms benefitted the youth and broader community members. These initiatives strengthen inter-sectoral linkages, community partnerships and more importantly educate and enable service uptake by communities experiencing multiple deprivation communities.

TUPEE497
ROLE OF CIVIL SOCIETY IN IMPLEMENTING CLIENT-CENTERED INTEGRATED SRH AND HIV SERVICES IN BOTSWANA, MALAWI AND SWAZILAND 2011-2015

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Background: The critical role of civil society in implementing health programmes is widely recognized, including in the provision of integrated SRH and HIV services. In Southern Africa, 7 countries piloted integration of SRH and HIV between 2011 and 2015. This study presents the results of an assessment of civil society participation in 3 of the 7 countries implementing the programme, in particular the role of civil society organization (CSOs) in SRH/HIV integration.

Methods: A qualitative study was conducted between March and September 2015 and included fieldwork in Botswana, Malawi, and Swaziland. Data was collected through desk-research and face-to-face semi-structured interviews with 24 key informants representing civil society, Government, and UN agencies. Five focus group discussions were conducted with 20 participants representing civil society data. Data was recorded in the form of notes and tape recorders, and later transcribed. Transcripts were imported into Atlas. ti. for data coding and analysis. Data was analyzed following a thematic analysis approach.

Results: CSOs had a critical value-added role in the implementation of SRH and HIV integration, particularly in the following areas:
1. Advocacy: CSOs had an important role in advocating for formulation and adoption of policies on integration of SRH and HIV. Equally, they also had an important role in holding governments to account and advocating for the implementation of these policies.
2. Demand generation for integrated services: Community outreach events, distribution of pamphlets, and direct interactions communities and community based organisations, was critical for reaching the marginalized and underserved, including young people.

Service provision: CSOs were vital partners to supporting the Government in demonstrating efficient and effective models of integrated service delivery that successfully provides a broad range of SRH and HIV services.

Conclusions: Civil society has a critical role in implementation and scaling up of SRH and HIV integration through advocacy, demand generation, and direct service provision. In an era of dwindling resources, it is vital to make the most of these synergies by strengthening partnerships between the Ministry of Health and civil society.

TUPEE498
MAKING 90-90-90 A REALITY: BUSINESS UNUSUAL IN SOUTH AFRICA

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Background: South Africa was one of the first countries to adopt ambitious 90-90-90 targets for HIV and TB by 2020. To fast track action, an innovative, bottom-up District Implementation Planning (DIP) process was introduced using a participatory approach to identify root causes of poor performance against 33 tracer indicators. The outcome is costed HIV and TB plans, per district, which consolidate all available resources and guide all stakeholders to ensure that funds flow to priority interventions, locations and populations. The process has unified action and strengthened collaboration between government, donors and implementing partners.

Description: 90-90-90 targets were developed and disaggregated across the provinces and districts down to facility level. Each province selected its twelve worst performing indicators across HIV, TB and PMTCT. Tools based on results based management were developed to promote analysis and use of data, facilitate concrete action planning, cost and budget the plans, and monitor progress towards the targets. Cascade analyses, indicator dashboards and bottleneck analysis tools were utilized during participatory workshops aiming to empower health workers and facility managers and ensure their experience informed planning of interventions to yield highest impact. Facility plans were consolidated up to district level and submitted for review by Provincial and National Departments of Health.

Lessons learned: Including all partners and stakeholders in a participatory process is complex but worthwhile. All 52 districts have submitted DIPs and these are guiding the funding allocation to be based on needs rather than historical performance. Health care workers and facility managers are mobilized and informed of their targets which strengthens motivation and accountability. All partners are informed of the DIPs and efforts are underway to align targets, planning and budgeting cycles at all levels.

Conclusions/Next steps: The DIP process is a concrete example of how ambitious global level targets can help countries to implement “business unusual”. It has revolutionized planning, brought all partners together, and is merging top down and bottom up approaches. While it was initiated by NDOH and is currently health driven, the objective is to expand the core indicators to include structural drivers and promote data driven action for the multi-sectoral response going forward.
EFFECTS OF PUBLIC–PRIVATE PARTNERSHIPS, INCLUDING WORKPLACE PROGRAMMES AND POLICIES

TUPEE500
WEAVING HIV, FAMILY PLANNING AND SEXUAL AND REPRODUCTIVE HEALTH SRH SERVICES FOR FEMALE FACTORY WORKERS IN CAMBODIA THROUGH PRIVATE PARTNERSHIPS

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Background: Garment manufacturing is the single largest industry in Cambodia which employs the most female workers. Mostly rural-urban migrants, these women are invisible and lack access to health information, quality SRH services, and supportive policy.

The Reproductive Health Association of Cambodia (RHAC) through Japan Trust Fund for HIV and Reproductive Health (JTF) provided HIV and SRH information and free services to women working in garment factories in three major cities.

Description: RHAC established partnerships with 30 factories. RHAC staff delivered interactive and fun lunchtime SRH and HIV information sessions. RHAC trained factory clinic staff on providing health education including contraception and STI testing, and on client rights and basic clinical skills.

A voucher system was introduced and the women obtained a range of free SRH services including contraception, post-abortion care, HIV tests and cervical cancer screening at the closest RHAC clinic.

RHAC also adapted its clinic-hours to open on Sundays during the workers’ time off. During the 2 year project lifetime, 18,283 VCT services and 51,829 STI treatment services were provided to female factory workers.

The provision of services increased exponentially, as shown by the indicators (quantitative) in the Table.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Baseline (2012)</th>
<th>Target (100% increase)</th>
<th>Actual: May 2013 - April 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of clinic visits by female factory workers</td>
<td>70,540</td>
<td>147,252</td>
<td>126,316 (86%)</td>
</tr>
<tr>
<td>No. of factory workers received STI services at RHAC clinics</td>
<td>29,476</td>
<td>57,400</td>
<td>53,559 (93%)</td>
</tr>
<tr>
<td>No. of factory workers received family planning services at RHAC clinics</td>
<td>3,612</td>
<td>6,700</td>
<td>7,426 (111%)</td>
</tr>
<tr>
<td>No. of female factory workers received post abortion care services at RHAC clinics</td>
<td>979</td>
<td>1,900</td>
<td>2,780 (146%)</td>
</tr>
<tr>
<td>No. of factory workers received HIV counselling and testing (VCCT)</td>
<td>10,304</td>
<td>25,582</td>
<td>21,582 (84%)</td>
</tr>
<tr>
<td>No. of factory clinic staff trained and provide quality RH services (in the second year)</td>
<td>0</td>
<td>60</td>
<td>43 (73%)</td>
</tr>
<tr>
<td>No. of clinic in factory provide SRH services for workers</td>
<td>0</td>
<td>30</td>
<td>30 (100%)</td>
</tr>
</tbody>
</table>

[Project Achievements, May 2013 - April 2015]

Lessons learned: RHAC was able to generate more discussions among the factories, Garment Manufacturers Association of Cambodia, Ministry of Labour & Vocational Training and the Ministry of Health on the need to have a clear standard service package provided by the factory clinics.

This project is proof that women are able to attain the highest standard of health if we address SRH issues holistically.

Conclusions/Next steps: Through private partnerships, RHAC reduced access barriers to HIV/STI services, improved link to access to quality HIV/STI services, and enhanced human resource capacity of factory health staff, contributing to the growth of manufacturing industries, as well as social development.

We aim to develop private partnership financing models that will sustain SRH information and service provision for the long term.

TUPEE501
BRAZILIAN STRATEGY FOR UNIVERSAL AND EQUAL ACCESS TO THE HIV-1 GENOTYPI NG IN THE UNIFIED HEALTH SYSTEM

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Background: In 2002, the Brazilian Ministry of Health (BMoH) implemented the National HIV-1 Genotyping Network (Renageno), in order to carry out genotyping of those living with HIV/AIDS in antiretroviral therapy that presented resistance to the drugs, and a Genotyping Network Information System (SiGeno) with online access, that stores the genotyping results and enables monitoring from the day of the sample collection on.

Between the years 2002-2015, there were 86,920 Trugene® tests distributed to 23 public laboratories for an average price of US$210 per unit, until the Trugene® kit was discontinued by its manufacturer.

Description: Due to the lack of another kit for Renageno Genotyping with commercial authorization in the country, the BMoH acquired, in December 2015, a genotyping exam conducted in-house, in a private laboratory, with a cost of US$127 per unit. This laboratory was hired to collect samples in 709 health services within 3 business days, carry out the Genotyping and release the results on SiGeno within 12 business days, regardless of which municipality the sample came from. A SiGeno analysis of in January 2016, one month after the implementation of the contract, demonstrated a reduction from 35 days in 2015 to 11.5 days in 2016 in the release of the Genotyping.

Lessons learned: This promising strategy minimizes regional disparities, some health services took 40 days to submit the samples for genotyping in Renageno, it allows agility in the analysis of possible resistance encountered and in the proposal for a new antiretroviral regimen, as well as therapeutic success for those living with HIV/AIDS. Another advantage is the 40% savings on the cost of Genotyping at a private laboratory in relation to the Trugene®.

Conclusions/Next steps: Brazilian health care policy granting free access to diagnostic, treatment and monitoring for those living with HIV/AIDS through viral load and CD4, with the possibility of using the agility of the private sector and government funding, ensuring the expansion, reduction in cost and shortest delivery time of genotyping, are important advances to reach a greater number of HIV infected people with undetectable viral load and decrease the number of new infections.

TUPEE502
IMMUNOLOGICAL AND RETENTION OUTCOMES FROM A COMMUNITY-SUPPORTED PUBLIC-PRIVATE HIV TREATMENT PROGRAM IN YANGON, MYANMAR

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Background: This abstract describes immunological and retention outcomes within a public-private partnership between private sector general practitioners and community-based local non-governmental organization, the International HIV/AIDS Alliance in Yangon, Myanmar.

Methods: Retrospective analysis was conducted of 2,119 unique patient records from March 2009 to April 2015. The primary outcomes assessed from the date of enrolment in care were linkage to care, immunological response, retention and loss to follow-up, all-cause mortality, and survival. Follow-up time was calculated from the date of enrolment to date of death, loss to follow-up, transfer out or, if still alive, in the program until April 2015. The Cox proportional hazards model was used to identify predictors retention endpoints in bivariate and multivariate analysis.

Results: The median number of patients for each of the 16 general practitioners was 42 (IQR: 25-227) and the median follow-up period was 13 months. The median age was 35 years (IQR 30-41). 56.6% were men, 62% and 11.8 % were in WHO stages III and IV at registration respectively, median CD4 count at enrolment was 177 cells/mm³, and 90.7% were on ART in April 2015. During follow-up, patients’ CD4 counts increased from a median of 177 cells/mm³ to 274, 307, 387, 432, 439 and 482 cells/mm³ at 6, 12, 24, 36, 48 and 60+ months respectively. Patient retention was 98.9% at six months, and remained over 97% for up to 72 months.
Overall, 3.3% patients were lost to follow-up, 4.2% were transferred out to other health facilities, and 8.3% died during the follow-up period. Retention was associated with older age (aOR 0.934; 95% CI: 0.89-0.97%, p<0.001), being on ART (aOR 0.934; 95% CI: 0.89-0.97%, p<0.001).

Conclusions: Effectively supported private sector general practitioners successfully retained patients on antiretroviral therapy in Myanmar, suggesting that community-supported public-private partnerships can contribute to expansion of HIV treatment.

TUPEE504
A CHILD HEALTH AND PROTECTION SYSTEM BORN OUT OF AN HIV/AIDS PILOT IN CHINA

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Background: An equity-based pilot for inclusive social support and protection services is implemented in eight rural counties hard-hit by HIV/AIDS of southwest China. It aims to promote timely access and utilization of HIV testing and counseling, treatment adherence for Prevention of Mother-to-Child Transmission (PMTCT) and treatment of HIV-positive newborns. These counties are inhabited by ethnic minority groups, migrant workers and are mostly poor. The Ministry of Civil Affairs, the National Health and Family Planning Commission and UNICEF have designed a child welfare model to enhance equitable access under the overarching rights-based framework.

Description: The pilot supports link-up of the most vulnerable children and women to social support and protection services, including timely HIV/AIDS diagnosis, counseling and treatment. A community-level basefoot social worker network is established, one worker for each community to provide a range of services, foremost, birth and civil registration. Without an identity and the necessary papers, these families cannot access medical subsidies and social services. The barefoot social workers identify vulnerable children in their community, conduct household visits, monitor that subsidies are spent as intended, and provide referral to PMTCT and treatment. They also work with HIV-positive support groups in peer support.

Lessons learned: Between 2011 and 2015, over 90% of children without Hukou or civil and birth registration in the eight project counties were given IDs and received needed social services. Over 75% of infants exposed to HIV/AIDS had received early infant diagnosis (EID) in 2015 compared to zero in 2011. Data from a project county showed over 90% of pregnant women tested for HIV, and 65% of them treated at infant diagnosis (EID) in 2015 compared to zero in 2011. Key policies were developed to facilitate Hukou registration, cash transfer, and timely follow up for the most vulnerable women and children.

Conclusions/Next steps: Between 2011 and 2015, timely diagnosis and treatment rate of pregnant women tripled following introduction of the newly developed PMTCT and EID implementation policies. The number of children without access to social support and protection services also dropped significantly as a result of these interventions and the newly developed social protection policies.

TUPEE505
INVOLVING COMMUNITY LEADERS AND CBOs FROM DESIGN PHASE LEADS TO STRONG RESULTS IN ADDRESSING GBV AND HIV PREVENTION

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Background: In Mozambique, HIV prevalence is 13.1% for women, 9.2% for men, 1 in 3 women experience physical violence; 12% of women over 15 experience sexual violence. Risk factors include early marriage, transactional sex, and male dominance in decision making. Under the PEPFAR Gender-based Violence Initiative, USAID/Mozambique supported the Capable Partners Program (CAP) to scale up GBV prevention within their capacity building program. When six community-based organizations (including one faith-based organization) (CBOs) identified the influence that gender and GBV had on HIV vulnerability in their communities, CAP provided training and technical assistance to help these CBOs engage community leaders, design and implement social and behavioural change communication activities that address gender norms/GBV and HIV together.

Description: In collaboration with community leaders, CBOs organized series of 8-12 small group debates addressing gender-based risk factors and barriers to HIV prevention and testing. CAP provided support in ensuring quality implementation and produced videos on gender and HIV to spur reflective discussion of these sensitive topics. Interventions aimed at preventing sexual transmission of HIV and pro-

WORKING WITH COMMUNITY-LED ORGANIZATIONS, INCLUDING OF KEY POPULATIONS, FAITH-BASED GROUPS, AND TRADITIONAL HEALER ORGANIZATIONS, AND WITH COMMUNITY LEADERS

TUPEE503
HIV-RELATED KNOWLEDGE AND PRACTICES AMONG TRADITIONAL HEALERS IN MAPUTO, MOZAMBIQUE: IMPLICATIONS FOR SCALING UP HIV CARE AMONG COMMUNITIES RELIANT ON “TRADITIONAL” MEDICINE

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Background: “Traditional” or spiritual healers provide the majority of healthcare in some of the most highly HIV-endemic regions. Despite their central roles in affected communities, their HIV-related knowledge, practices and relationships with biomedical providers are largely unknown. This dearth of knowledge limits efforts to mitigate the HIV epidemic in these resource-limited contexts.

Methods: We employed ethnographic methods of minimally-structured interviews and participant-observation to gain information regarding “Traditional healer” treatment practices, HIV-related knowledge and attitudes towards biomedical resources. Between February and May 2016, 40 healers from Maputo City participated in the study. Interviews and observations were analyzed using content analytic methods to identify significant themes. The KQ-18 scale was also administered to all participants to quantitatively measure HIV-related knowledge. Socio-demographic information collected from all participants included age, gender, practice volume, geographic location and highest level of formal education.

Results: HIV-related knowledge varied by geographical location of healers (urban versus rural districts), as well as healers’ age. Practices of cutting, burning or bloodletting, associated with risk of spreading HIV were uncommon among our participants. The theme of marginalization was common among traditional healers as it related to their position as healthcare providers for their clients. Relationships between healers and biomedical providers involve mutual distrust, though healers are open minded about the possibility of working with allopathic providers in the future in order to improve access to HIV care for their clients.

Conclusions: Mozambican traditional healers play a central role in community health, yet some scored poorly on the HIV-related knowledge scale. Relationships with biomedical facilities are mutually distrustful, which impedes the processes of referral for HIV testing and/or ART medication treatment for those who are HIV-infected. Efforts to scale up HIV care and testing should involve traditional healers in order to have the greatest reach in this highly endemic area. Our data suggest that healers are open and willing to collaborate with biomedical providers in these efforts.
motivating HIV testing reached 70,892 women and men ages 15-49 in four provinces during 2012-2015. A 2014 quantitative cross-sectional endline population survey interviewed 1531 men and aged 15-49 about HIV prevention knowledge, attitudes and behaviors, comparing people exposed to CAP to those not exposed. This survey found a positive association between participation in interventions, and more balanced community gender norms and increased preventive behaviors. Lessons learned: A team of consultants interviewed CBO representatives and outreach workers to document the process and identify key factors that lead to this success. This qualitative case study identified the following success factors: 1. communities identified gender norms as a factor in HIV transmission; 2. sound, relevant methodologies; 3. comprehensive capacity building; 4. resources invested for long-term results, 5. ownership of interventions by CBOs and community leaders. Conclusions/Next steps: When communities and leaders are engaged in identifying the issues and supported to shape interventions that are meaningful, change in seemingly intransigent norms can happen.

TUPEE506
A STRATEGIC RESPONSE TO TB AT THE WORKPLACE: CALL FOR A PUBLIC-PRIVATE-CIVIL SOCIETY MIX
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1University of South Africa, Pretoria, South Africa, 2South African Business Coalition for Health and AIDS (SABCOHA) in collaboration with the TB CARE II Project funded by the United States Agency for International Development (USAID) and implemented by University Research Co., LLC (URC) and the University of South Africa (UNISA) hosted a series of twelve provincial and national round table discussions to develop a national strategic response framework to TB management at the workplace. Different role-players and stakeholders, including community-based organizations, government departments, workplace health care practitioners, managers and peer educators, and trade unions were amongst the participants of these sessions. Participants were asked to answer five strategic questions providing the needed evidence for the framework development. Key findings were analyzed using theme-analysis to code. Results: The participants identified 5 common priorities for the development of TB in the workplace strategic framework. These include intensifying TB knowledge, awareness and education interventions, collaboration between workplaces and communities, deal with TB treatment defaulters and resistance in a more comprehensive and preventative way, develop and strengthen multi-stakeholder strategies to address the link between HIV and TB in the workplace, communities and households; and strengthen monitoring and evaluation activities. Key lessons learned included the importance of workplace peer educators as key drivers of prevention, case detection, treatment adherence and importance of mobilizing workplace leadership response at all management levels to address TB within a social ecology understanding. Conclusions: Workplaces must integrate TB management within a comprehensive employee health and wellness program. Optimal care and prevention can only be achieved through a multi stakeholder approach and strong public-private-civil society partnerships are needed to curb the TB epidemic and to reduce stigma related to HIV and TB within workplaces, communities and society.

SEXUAL AND REPRODUCTIVE HEALTH AND HIV SERVICES: DELIVERY MODELS AND COSTS

TUPEE507
INTEGRATING SEXUAL AND REPRODUCTIVE HEALTH (SRH) SERVICES IN COMMUNITY HCT OUTREACHES CRITICAL FOR HCT UPTAKE BY YOUNG PEOPLE: LESSONS FROM NAAGURU TEENAGE INFORMATION AND HEALTH CENTRE (NITHC), KAMPALA, UGANDA
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Background: Recent reports indicate that adolescents and young people remain extremely vulnerable to acquiring HIV infection with over 35% of new infections being among young people 15-24 years. HIV counseling and testing (HCT) has been advanced as a key prevention strategy for early diagnosis to reduce the risks of transmission and promote early treatment. However, HCT services are under-utilized among young people consequently leading to increase in the number of new infections in this age group. The aim of this paper is to share the importance of integrating SRH services into HCT services on HCT uptake among young people (10-24 years).
Description: In July 2014, NITHC started integrating SRH services including Family planning and STI management into HCT outreaches in the community. Prior to this, only HCT services were provided during the outreaches. Data was collected for the period and the numbers of young people reached with HCT services during outreaches in the period before integration (July 2013- June 2014) was compared with data for the period after integration (July 2014 to June 2015).
Lessons learned: There was a significant increase to attendance for services during outreaches from 30 young people per outreach to an average of 80 per outreach. The number of young people who received HCT services doubled from 3200 (266 monthly attendance) before integration to 6218 (518 monthly attendance) after integration. Over 50% of the young people who came for other SRH services ended up taking an HIV test.
Conclusions/Next steps: Integrating HCT with other SRH services during outreaches can lead to increase in numbers of young people who take up HCT services. Young people who come for Family Planning or STI treatment present an opportunity for the service provider to discuss HCT hence increasing utilization of HCT services.

TUPEE508
ASSESSING KNOWLEDGE AND PREFERENCES OF SEXUAL AND REPRODUCTIVE HEALTH SERVICES AMONGST YOUNG PEOPLE AND ADOLESCENTS IN HIV CARE IN RURAL AND URBAN CAMEROON
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Background: Young people and adolescents still remain at risk of contracting HIV and other STIs. In Cameroon, the prevalence of HIV/AIDS amongst young people is 1.4% which constitutes about 46% of all new infection amidst the efforts of international, national and local AIDS control programs. Though a lot of focus is laid on abstinence and delaying sexual initiation, adolescents are still engaging in risky sexual behaviors. Youth need accurate, culturally relevant, age-appropriate, youth friendly, non-judgmental information about HIV transmission and infection, as well as, information on how to protect themselves, their partners, including abstinence, contraception, safer sex practices and where to get tested. HIV education and SRHR services must complement each other and be made readily available to all youth, regardless of level of education or sexual activity. This study aimed to assess knowledge of and preferences for SRHR services amongst adolescents and young people accessing HIV care services in rural and urban Cameroon.
Methods: The study involved one rural and one urban community. A self-reporting structured questionnaire which sought to assess knowledge of existing SRHR services within the health facility, and preferences for SRHR services were administered to 100 young people and adolescents attending HIV treatment centers in both communities.
Results: 85% of our participants were young girls with an average age of 23years. The 15% of young boys had an average age of 27years. 87% of our participants did not have any knowledge of existing SRHR services within the health facility. Of the 13% who knew/used SRHR services, 80% of them were in the urban setting and preferred seeking such services from other health facilities due to the fear of being
TUPEE509
CHALLENGES AND OPPORTUNITIES FOR SCALING UP AN INTEGRATED SEXUAL REPRODUCTIVE HEALTH SERVICES IN REFUGEE SETTLEMENT OF MBARABA PROVINCE, UGANDA

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Background: In 2015, following the influx of Burundian refugees in Nakivale, Uganda, Reproductive Health Uganda (RHU), implemented the Minimum Initial Services Package (MISP) in humanitarian crisis for three months (August - October 2015). The project benefited over 45,500 refugees through 20 service delivery points in four areas of Nakivale province, providing sexual, reproductive health services including family planning, HIV counselling and testing, and sexually transmitted infections management along with community sexual and reproductive health awareness sessions.

Description: The programmatic review of this study was conducted through primary and secondary data collected through SPRINT project reports, observations, field visits, case studies and semi-structured interviews with the beneficiaries, project staff and other stakeholders. To assess the quality of care component, tools such as client exit interviews and RH camp assessment tool were applied wherein fourteen client exit interviews and two Reproductive Health camps were assessed.

Lessons learned:
- The workload was quite high, based on the observation approximately 250-300 clients were provided Maternal and Child Health services per day
- Low community awareness and knowledge about HIV and its impact on health increased their exposure to HIV due to their high risk behavior and sexual networks
- With close collaboration with the Government and UN agencies, this project has the scope of integrating their existing activities including capacity building of vigil health team on MISP
- Though all family planning services were available, these were under-utilized due to cultural barriers
- Multi-linguistic translator not from the local community and sensitive to the refugees’ needs
- Specific counseling skills for GBV and HIV positive cases
- Involvement of adolescent and youths as volunteers
- Transfer of skills to the existing medical team on cervical cancer screening and management.

Conclusions/Next steps:
- In protracted crisis, with well-established health service delivery structure, provision of services like cervical cancer screening, which are beyond MISP activities, helps in community mobilization and health seeking behavior
- Crisis involving refugees from different countries needs special attention in terms of culturally sensitive apart from multi-linguistic service providers
- Well coordinated and collaborated activities among the partners help in effective utilization of resources and transfer of skills.

TUPEE510
FACTORS INFLUENCING THE IMPLEMENTATION OF PROVIDER-INITIATED TESTING AND COUNSELING (PITC) AMONG STI CLIENTS IN SOUTHERN MALAWI: A MIXED METHODS STUDY

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Background: Provider-initiated-testing-and-counseling (PITC) is critical to identify new HIV infections among high-risk populations. While routine PITC is recommended in generalized epidemics, the implementation of PITC outside antenatal services is limited. This paper uses data from a mixed-methods study to identify factors that influence the implementation of PITC among STI clients in southern Malawi.

Methods: Five health facilities ranging in size, location, and models for STI service delivery were purposely selected. Exit surveys were conducted with 299 clients seeking STI services. In addition, 18 in-depth interviews with service providers and participant observation over a 5-month period were conducted to further examine barriers to policy implementation.

Results: Two models of care were identified: (i) specialized services (providers only offered STI services in designated STI rooms) and (ii) integrated services (services offered alongside other outpatient services in non-specific consultation rooms). 61% of clients requiring PITC were not informed about HIV testing, with significant differences between specialized (38.83%) and integrated (79.17%) models of care. Neither model provided HIV testing during STI consultations. Clients told about testing were expected to independently seek out HIV services after completing STI consultations. As a result, being told about testing rarely translated into same-day testing.

Younger and older clients were less likely to be told about testing (AOR 1.45, 95%CI 1.04-2.00; AOR 0.99, 95%CI 0.99-0.99). When controlling for individual characteristics, specialized models of care (AOR 6.31, 95%CI 2.99-13.29) and comprehensive STI services (AOR 1.96, 95%CI 1.31-2.53) were associated with providers’ discussing HIV testing with clients.

Several factors were identified as to why providers in specialized models were more likely to discuss testing than those in integrated models: providers received comprehensive training on STI services; had greater knowledge of STI service protocols; felt less overwhelmed by client loads; and felt more responsible to complete STI registers.

Conclusions: The organization of PITC had significant implications for policy implementation. Importantly, both integrated and specialized models did not provide testing during STI consultations, largely negating the potential impact of PITC. To achieve the maximum benefits of PITC, HIV testing should be fully integrated into routine consultations. Providers also need regular trainings on PITC protocols.

TUPEE511
HIV-POSITIVE WOMEN’S SEXUAL AND REPRODUCTIVE HEALTH NEEDS AND HEALTH SEEKING BEHAVIORS IN JOHANNESBURG, SOUTH AFRICA

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Background: South Africa has committed to achieving universal access to sexual and reproductive health (SRH). Given the country’s HIV prevalence, special consideration is required regarding how to address HIV-positive women’s SRH needs.

Methods: We aimed to assess HIV-positive women’s SRH needs and care access patterns. From June-November 2015 trained interviewers approached HIV-positive women presenting for treatment at a large, public HIV-treatment facility in Johannesburg, South Africa. Women, approached using a systematic random sample, were eligible for a semi-structured interview if aged 18-49. We analyzed closed-ended interview responses descriptively in Stata (v14.0). Open-ended responses were analyzed using thematic analysis.

Results: We approached 369 women, and 192 (52%) were eligible (enrolled). Median age was 39.6 (IQR 35.0-43.6). The majority were Black African (94.8%) and married/cohabitating (40.6%). 39.1% made 6-10 visits per year to health facilities per year for their HIV and other health conditions; 25.0% reported more than 10 visits per year. The majority (n=160, 83.3%) currently used modern contraception. Two-thirds (n=117, 61.3%) wanted no (more) children, but of those, 23 (19.7%) were not using a method.

Menstrual symptoms were prevalent in 58% (61.8%) of women presenting, of whom 31.4% (n=18) had bleeding problems. Two-thirds (n=117, 61.3%) wanted no (more) children, but of those, 23 (19.7%) were not using a method. The majority (n=160, 83.3%) currently used modern contraception. Two-thirds (n=117, 61.3%) wanted no (more) children, but of those, 23 (19.7%) were not using a method. The majority (n=160, 83.3%) currently used modern contraception.

Conclusions: HIV-positive women’s SRH needs and health seeking behaviors in the last year
TUPEE512 INTEGRATION OF HIV AND REPRODUCTIVE HEALTH SERVICES IN PUBLIC SECTOR FACILITIES: ANALYSIS OF CLIENT FLOW DATA OVER TIME IN KENYA

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Background: Integration of HIV/AIDS services with reproductive health (RH) care is expected to increase the uptake and efficiency of services, yet little is known about levels of integration in practice. We assessed the extent and nature of service integration in government facilities in Kenya, before and after an intervention designed to improve integration.

Methods: Between 2009-2012, client flow assessments were conducted at six time points in 24 facilities, purposively selected as intervention or comparison sites. A total of 25,539 visits were tracked: 15,270 in districts where 6 of 12 facilities received an intervention to strengthen HIV/RH service integration with family planning (HIV-FP), and 10,266 visits in districts where 6 of 12 facilities received an HIV-PNC intervention, 2009-2010.

Main outcome measures: The proportion of all visits in which an HIV/RH testing, counselling or treatment service was received with an RH service (family planning counselling or provision, antenatal care, or postnatal care); the proportion of visits in which individual HIV counselling was received.

Results: Levels of integrated HIV-RH services and HIV counselling were generally low across facilities and time points. An initial boost in integration in most intervention sites subsequently declined after the first follow-up.

TUPEE513 INTEGRATING HIV AND SEXUAL AND REPRODUCTIVE HEALTH SERVICES IN CLINICS IN ZIMBABWE: EVOLVING VIEWS OF END-USERS AND PROVIDERS

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Background: Access to cervical cancer screening (CCS) and family planning (FP) services in Zimbabwe is sub-optimal and may be increased by integration with HIV programs. Population Services International Zimbabwe (PSI/Z) has integrated CCS and FP into existing HIV testing and treatment services. We used serial qualitative interviews to explore evolution of client and healthcare worker (HCW) views on service integration.

Methods: At three PSI/Z directly-managed clinics and one public-private partnership clinic, in-depth interviews were held with clients in November/2013-March/2014 (Phase 1), November/2014-March/2015 (Phase 2) and December/2015-January/2016 (Phase 3). HCWs were interviewed in-depth in phases 1-2 and had focus group discussions (FGDs) in phase 3. Data were analysed thematically.

Results: 32, 37 and 33 clients aged 18-52 years were interviewed in Phases 1, 2 and 3 respectively. 26 and 20 HCWs were interviewed in Phases 1&2; 34 undertook 4 FGDs in Phase 3. Across phases, clients and HCWs viewed integration positively because:

1) it improved access to all provided services;
2) co-location of services saved travel time and money; and
3) it promoted awareness of services - client awareness of CCS improved from phase 1-3. Additionally, clients thought having a single waiting room for various services protected against stigma associated with accessing HIV-related services (Phase 3).

Most clients were satisfied with service quality; a few felt HCW were overwhelmed, leading to provision of selective information and long waiting times.

More HCWs were trained in CCS and LARCs over the 3 phases however some knowledge gaps remained. HCWs reported that integration allowed professional growth particularly for those with clinical backgrounds (all phases). Internal referrals, effective in promoting linkage to care, worked best between HIV and CCS services and less so for clients primarily seeking FP. HCWs’ challenges included:

1. sub-optimal coordination between departments;
2. difficulties tracking referred clients;
3. demand for services exceeding capacity (space and equipment);
4. difficulty achieving service targets; and
5. inaccurate information-sharing amongst clients.

Conclusions: Integration has increased access to, uptake of and awareness of HIV and SRH services. Interventions aimed at capacity strengthening, team-building and dissemination of accurate information to clients are likely to further improve implementation and uptake of services.

TUPEE514 “4 SMART YOUTH” MOBILE APP REACHING VULNERABLE YOUNG PEOPLE IN MYANMAR WITH HIV/SRH INFORMATION

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Background: Link Up Myanmar aims to increase health seeking behavior and uptake of joined up and tailored HIV/SRH services among young people affected by HIV, especially those living with HIV, MSM, sex workers, people who use drugs and transgender young people (YKP), aged 10-24. Rapidly emerging mobile technology is being widely used by young people. Link Up is reaching hard to reach, hidden YKPs by using a mobile application (app) as a HIV/SRH education tool. “4 smart youth” education tool was released in July 2015, with high community acceptance and uptake.

Methods: Development of “4 smart youth” involved YKP throughout the planning and implementation. The project began with a YKP consultation to better understand their buy-in and information needs and design parameters. The final version includes live chat and forum where YKP can ask questions publicly or privately about HIV/SRH. Trained Link Up counsellors respond and refer individuals onto services. Offline features include a catalogue of HIV/SRH information and a directory of HIV/SRH prevention and treatment services, which can be sorted by location and types of services. Links to HIV/SRH information website in Burmese and the official Link Up Facebook page are also provided.

Results: Putting YKP at the centre of developing this tool has ensured that it addresses their HIV/SRH information needs and has established a strong youth-adult
partnerhips. The app brings HIV/SRH information and support directly into young people's hands and gives them options about how to access information. To date over 2000 YKP have used the app with over 33% as return users. This all-in-one education tool is very convenient and has the potential to reach more hard to reach youth than traditional IEC materials and health education.

Conclusions: 4 smart youth7 has shown the potential of effective youth-adult partnerships for developing innovative technology. The process can be applied to developing other youth-friendly health and well-being programmes and technologies. The tool can also be used by peer educators and in the field. Additional work is needed to ensure that the app itself is easily updated and can respond to the challenges of slow internet speeds for online users.

TUPEE15
PATIENT PREFERENCES FOR SAFER CONCEPTION SERVICE DELIVERY: FINDINGS FROM A DISCRETE CHOICE ANALYSIS

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Background: There are increasing calls for expansion of safer conception services (SCS) for HIV-affected couples trying to conceive. However little evidence exists regarding what service attributes patients prefer most to inform SCS scale-up.

Methods: A discrete choice experiment (DCE) was conducted with patients attending various services at a large primary healthcare clinic in Johannesburg, South Africa. Eligible individuals were ≥18 years, planning to conceive within 12 months, and in a relationship in which either/bot partners were HIV-positive or of an unknown status. The DCE design informed by qualitative work assessed how different service delivery attributes affected preferences for attending a safer conception clinic (Fig. 1). Conditional logistic regression and partial log-likelihood comparisons were used to examine the importance of attributes on service delivery preference.

Results: Overall 505 participants (69% female) enrolled into the DCE between September 2015-January 2016. The median age was 33 years [IQR:28-37]. Participants were in seroconcordant (n=191, 38%), serodiscordant relationships (n=105, 21%), and unknown status relationships (n=209, 41%). Combined DCE results indicate the type of counselling sessions offered was the most important attribute driving SCS preferences. Participants displayed greater preference for couples' counselling, followed by group single-sex counselling, then group co-ed counselling and lastly individual counselling. Continuity of healthcare providers across visits was the second most important attribute, followed by type of healthcare worker (nurse preferred over counsellor), weekend operating hours, shorter time spent at clinic and lastly number of operating days per week. In sub-group analyses, women's most valued attribute was method of counselling, followed by type of healthcare worker, whereas men similarly valued the method of counselling, followed by weekend hours.

Conclusions: Considering client preferences for private couples' counselling, effective SCS implementation will rely on sufficient consultation time and physical space availability. Given challenges engaging men in care, weekend hours should also be considered to maximize SCS uptake.

TUPEE16
IMPACT OF COMMUNITY MODELS IN SRHR AND HIV FOR YOUNG PEOPLE

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Background: Centre for Youth Empowerment and Civic Education (CYECE) has been implementing an SRHR project called Unite Against Child Marriages in Dedza district which focused on addressing harmful, cultural and religious beliefs which fuel child marriages among adolescent girls funded by the Dutch Government through an organization called CHOICE for Youth and Sexuality. The main object of the project was to reduce cases of child marriages by creating an enabling environment for girls SRHR using community based models.

Description: CYECE created and implemented a Cultural Model as follows;

1st Phase: Community Mobilization & capacity building: Traditional leaders were mobilized and trained on the SRHR issues for young people to make them champions of child marriages within their communities.
2nd Phase: Whole community awareness dangers of child marriages: CYECE conducted Community Dialogue Sessions facilitated by the trained traditional leaders on the dangers of child marriages.
3rd Phase: Joint community action to sustain interventions against child marriages: CYECE conducted interface forums with community stakeholders and children to lift cultural and religious practices which fuel child marriages.

Lessons learned: The project achieved the following outcomes;
- Improved knowledge and skills on SRHR among girls
- Girls' ability to deny and report forced marriages
- Increased girls enrolment in formal education
- 48 girls withdrawn from child marriages
- Modified/changed cultural practices
- Community leaders supporting girls SRHR and education
- Enforcement of byelaws against child marriages
- Girl child friendly policies and laws in place

Conclusions/Next steps: CYECE is very much convinced that community led approach to curb child marriages are the only tool for a successful and sustained community intervention. Empowering community leadership to champion SRHR interventions is very crucial and sustainable. The project managed to develop community Bye-Laws to end child marriages.

ANALYSES OF CHANGES IN POLICY AND PRACTICE

TUPEE17
NATIONAL SURVEY OF UNITED STATES HIV HEALTHCARE PROVIDERS ABOUT AFFORDABLE CARE ACT KNOWLEDGE AND ATTITUDES

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Background: The Affordable Care Act (ACA) has changed HIV healthcare delivery in the United States. The objective was to explore HIV providers' knowledge and attitudes about the ACA across the nation.

Methods: HIV providers were emailed a weblink to a survey. The survey assessed sources of ACA information, knowledge about the ACA as well as attitudes about the ACA.

Results: Of the 253 survey respondents, 16.2% were fellow physicians, 4.0% were PAs, 13.8% were NPs, and 66% were attending physicians. The respondents were from 35 of the 50 United States and the District of Columbia. 60.1% respondents were from Medicaid expansion states. In terms of sources of ACA knowledge, 63% reported using websites, 62.8% reported using newspapers/magazines, 44.7% reported using clinic case managers, and 34.8% reported using the radio. The majority of respondents (60.5%) answered all 4 knowledge questions correctly. Approximately one-third of respondents answered “I don’t know” to at least one question. 70.8% knew whether or not their state had elected to expand Medicaid. On a scale
TUPEE18
HIV PCR TESTING AT BIRTH: EXPERIENCES FROM A REGIONAL HOSPITAL IN ETHEKWINI, KWAZULU-NATAL, SOUTH AFRICA

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Background: eThekwini district, KwaZulu-Natal (KZN), (population 3.4 million; ANC HIV sero-prevalence, 39%), South Africa has promoted PMTCT of HIV since 2002 and achieved an infant 1st PCR test positive around 6 weeks rate of 1.1% in 2014. However, HIV is still a significant contributor to <5 mortality. Intrauterine infections present highest risk of rapidly progressive disease and death, and can be detected by birth HIV PCR testing. Survival benefit has been demonstrated when infected infants are initiated on ART before 14 weeks of age.

Description: In April 2015 KZN Department of Health adopted PCR testing within 6 hours of birth for all HIV-exposed infants and ART initiation within 7 days of diagnosis. This was communicated to facility management at a provincial workshop and district quarterly meetings, and facilities were requested to develop implementation plans. Review of a regional hospital June 2015 data by District Clinical Support Team (DCST) and Match, a PEPFAR-funded NGO, showed poor compliance - only 14% of eligible neonates were tested. Additional support visits were provided by DCST, and training and mentoring by Match on the amendment and PCR testing technique. Subsequent improvement in testing was noted with facility achieving up to 97% coverage (Table1).

<table>
<thead>
<tr>
<th></th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live birth to HIV positive woman</td>
<td>234</td>
<td>249</td>
<td>221</td>
<td>163</td>
<td>181</td>
<td>216</td>
</tr>
<tr>
<td>Birth PCR tests</td>
<td>33(14%)</td>
<td>161(65%)</td>
<td>191(86%)</td>
<td>128(79%)</td>
<td>176(79%)</td>
<td>203(84%)</td>
</tr>
<tr>
<td>Birth PCR positive test</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

[Table1. Birth PCR testing at regional hospital (2015)]

Lessons learned: National guideline was poorly adapted at facility level with lack of commitment from key role players. Guideline implementation needs to be incorporated into quality assurance processes and review mechanisms at facility level for prompt identification, using institution data as a foundation for quality improvement. Routine feedback mechanisms need to be in place to assess compliance to guidelines at district level with timelines specified.

Conclusions/Next steps: Field and Lohr emphasized that “guidelines do not implement themselves” (1992). Advance planning for guideline dissemination will ensure better implementation of policies with specific roles and responsibilities clarified at facility level. Targeted intervention plans need to be in place with ongoing training and mentorship programmes to promptly address gaps identified.

TUPEE519
DOES INCREASED IN-FACILITY VERBAL TB SCREENING RESULT IN INCREASED TB CASE-FINDING? YES...AND MAYBE

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Background: The District Health Services of the Western Cape made a concerted effort to increase TB verbal screening in PHC facilities in 2015. To facilitate the process, mid-level managers were required to focus on this activity; tools were developed for recording screening events and provincial monitoring systems were enabled. The results from one rural district are reported.

Description: In the Cape Winelands district the number of recorded verbal TB screening events in 2015 changed from an average 18,300 per month in the January-to-March period to an average of 35,900 in September to November, reflecting a 96% increase in the number of TB screening events. Over the same periods, the number of recorded Genexpert tests changed from an average of ~2,700 per month to ~3,930 per month (44% increase), and the average number of positive Genexpert results changed from 460 per month to 568 per month (23% increase). Figure 1 elucidates:

[Figure 1. TB screening vs TB testing vs positive TB results]

Table 1 summarises the results per sub-district (all changes compare January-March to September-November):

<table>
<thead>
<tr>
<th></th>
<th>Proportional increase in verbal screening events</th>
<th>Proportional increase in TB tests</th>
<th>Proportional increase in positive TB results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-district 1</td>
<td>45%</td>
<td>94%</td>
<td>67%</td>
</tr>
<tr>
<td>Sub-district 2</td>
<td>412%</td>
<td>22%</td>
<td>-7%</td>
</tr>
<tr>
<td>Sub-district 3</td>
<td>6%</td>
<td>29%</td>
<td>13%</td>
</tr>
<tr>
<td>Sub-district 4</td>
<td>143%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Sub-district 5</td>
<td>201%</td>
<td>50%</td>
<td>41%</td>
</tr>
<tr>
<td>WHOLE DISTRICT</td>
<td>96%</td>
<td>44%</td>
<td>23%</td>
</tr>
</tbody>
</table>

[Table 1]

Lessons learned: 23% more TB was diagnosed in September-November compared to January-March (an additional ~100 cases per month). Laboratory diagnosed TB cases correlated better with the number of tests submitted than the number of screening events.

Conclusions/Next steps: Increased verbal screening appears to increase laboratory TB diagnosis but further analysis is required to elaborate the relationship of both to the intermediate step of TB testing at facility level. These results are based on screening and laboratory data only. Genexpert might not the only testing modality. TB treatment data must be reviewed to assess whether a commensurate increase in treatment initiation is documented.
TUPEE520
MONITORING PHARMACY AND TEST KIT STOCKS IN RURAL MOZAMBIQUE: PREVENTING MINISTRY OF HEALTH STOCK-OUTS IN THE U.S. PRESIDENT’S EMERGENCY PLAN FOR AIDS RELIEF (PEPFAR)

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Background: HIV and tuberculosis (TB) treatment scale-up in Mozambique has expanded very rapidly in the last couple of years. We assessed the central pharmacy experience for medications and test kits being used in Zambézia province, northcentral Mozambique, with the nation’s second largest population and high HIV prevalence.

Methods: Using pharmacy stock surveillance for 60 weeks (April 2014-June 2015), we assessed availability of 36 medications (five medication classes) and four diagnostic kits (HIV and malaria rapid tests and syphilis RPR) used in PEPFAR-supported programs. Medication/kit classes were: adult antiretrovirals (ARVs), pediatric ARVs, TB medications, antibiotics, and test kits. We modeled pharmacy data using ordinal regression, characterizing weekly product availability in four categories: good; adequate; insufficient stockout; or stockout.

Results: Among 2160 weekly records, there were 166 (7.7%) stockouts and 150 (6.9%) insufficient stockouts. Earlier calendar time was associated with a reduced medication supply (p<0.001), the time association was non-linear (p<0.001), selected drug/kit classes were associated with reduced supply (p<0.001), and an interaction effect existed between time and drug class on the odds of reduced supply (p<0.001). At the evaluation’s mid-point, pediatric ARVs had a 7.5 (95% confidence interval [CI]: 1.2-43.7) times higher odds of a reduced medication supply compared with adult ARVs. Compared with adult ARVs, TB medications, antibiotics and test kits were also at greater risk of reduced supply at the evaluation’s mid-point. Adult and pediatric ARVs had 67% and 71% lower odds respectively of reduced medication supply over time (95%CI: 0.11-1.04 and 0.11-0.79), comparing the first and last weeks.

Conclusions: Despite increasing demand over time with program scale-up, adult ARV pharmacy shortages have become less frequent. Pediatric ARVs, TB medication, antibiotics, and test kits have been more prone to variable stock outs and will be a priority focus.

IMPACT OF HIV FUNDING/PROGRAMMING ON REPRODUCTIVE HEALTH AND OTHER DISEASE OUTCOMES

TUPEE521
THE LARGEST EFFECT OF AN HIV QUALITY IMPROVEMENT PROGRAM IN CÔTE D’IVOIRE IS ON PROVISION OF MATERNAL HEALTH CARE

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Background: Côte d’Ivoire is likely to have met Millennium Development Goal (MDG) 5 by 2015 and have begun to reverse the spread of HIV/AIDS by 2015; yet MDG 5 aims to reduce the maternal mortality ratio by three quarters between 1990 and 2015 - showed no progress. Improving health of individuals and communities requires a health-systems approach to ensure pregnant women living with HIV do not die of other preventable causes. Through funding from CDC/PEPFAR, in 2008 IPIjego began implementing a quality improvement (QI) program across 35 health facilities with the aim of improving the quality of antenatal care (ANC), including preventing mother to child transmission (PMTCT) of HIV. An evaluation was undertaken to assess the effects on service delivery.

Description: The evaluation was a quasi-experimental, pre- post- design, undertak-
en in 10 health facilities offering ANC and PMTCT services in northern Côte d’Ivoire. Baseline and endline data collection occurred in March 2014 and February 2015, respectively. Data collection included observations of consultations with providers and data reviews. Data analysis was done using STATA.

Lessons learned: There was an improvement in HIV service delivery in ANC, with significantly more women provided education on the risk of transmission of HIV during pregnancy. The table shows the substantial improvement in provision of basic antenatal care, including educating women about danger signs during pregnancy and discussing post-partum family planning options.

<table>
<thead>
<tr>
<th>Service Delivery Standard Achieved</th>
<th>N Achieved / N Assessed at Baseline</th>
<th>N Achieved / N Assessed at Endline</th>
<th>p value</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider explains the risk of transmission of HIV from mother to child during pregnancy, labor &amp; delivery, and breastfeeding</td>
<td>41 / 136 (30%)</td>
<td>108 / 140 (77%)</td>
<td>.008</td>
<td>2.56 (1.28 - 5.3)</td>
</tr>
<tr>
<td>Provider establishes the HIV status of the patient</td>
<td>96 / 136 (71%)</td>
<td>122 / 125 (98%)</td>
<td>.006</td>
<td>1.39 (1.10 - 1.75)</td>
</tr>
<tr>
<td>Provider explains intermittent preventive treatment for malaria</td>
<td>53 / 126 (42%)</td>
<td>112 / 138 (81%)</td>
<td>.001</td>
<td>1.93 (1.29 - 2.88)</td>
</tr>
<tr>
<td>Provider encourages the woman to deliver in a health facility</td>
<td>21 / 134 (16%)</td>
<td>89 / 138 (64%)</td>
<td>.001</td>
<td>4.12 (1.95 - 6.69)</td>
</tr>
<tr>
<td>Provider discusses at least 4 danger signs during pregnancy: vaginal bleeding, intense headache, fever, acute abdominal pain, blurred vision, convulsions, shortness of breath</td>
<td>7 / 135 (5%)</td>
<td>92 / 140 (66%)</td>
<td>.001</td>
<td>12.67 (5.53 - 29.05)</td>
</tr>
<tr>
<td>Provider discusses family planning options</td>
<td>4 / 135 (3%)</td>
<td>61 / 139 (44%)</td>
<td>.002</td>
<td>14.81 (2.63 - 83.33)</td>
</tr>
</tbody>
</table>

(Improvements in provider performance in Antenatal Care)

Conclusions/Next steps: The implementation of a QI program targeting PMTCT services led to significant improvements in the general management of pregnant women in ANC, as well as provision of PMTCT services. This is of particular importance in a setting where the leading causes of maternal mortality are hemorrhage, indirect causes, and eclampsia. Standardization of ANC and PMTCT services, using a health-systems focused QI approach, contributes to improvements in maternal health beyond HIV, perhaps most importantly the planning for the next pregnancy.

TUPEE522
THE IMPACT OF AIDS TREATMENT ON TUBERCULOSIS OUTCOMES AT THE NATIONAL LEVEL IN SOUTH AFRICA

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Background: HIV/TB co-infection is particularly prevalent in South Africa, where TB has been the leading cause of death for over a decade. The 2004-2008 national rollout of ART provides a unique opportunity to examine the population-level impact of the ART epidemic.

Methods: We performed a longitudinal regression analysis that follows the evolution of TB outcomes before and after the introduction of ART using a large data set from the National Health Laboratory Service. This is the first study to produce estimates of the impact of the ART rollout net of confounders by exploiting the random variation in the rollout.

Results: After ART became available in a health facility, 3-7% (p<0.0001) more patients were tested for TB and 3-2% (p<0.0001) more received follow-up tests, with a steep rise around the introduction of ART. Though the number of TB-positive patients increased by 4.3% (p<0.0002) in the first year post-ART, the TB rate among tested patients fell by 2 percentage points (8%, p<0.001) after two years. Sputum smear testing declined relative to more technologically advanced diagnostics post-ART.

Conclusions: ART availability increased attention to TB screening and drew new patients into the health care system. Increases in the numbers of repeat patients are indicative of retention in care and reflect an increase both in TB screening and monitoring. The decline in TB rates post-ART demonstrates that the reduction in TB risk due to improved immune functioning and more contact with health care outweighed any increased TB risk due to the longer lifespan of ART initiators.

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TUPEE523
BARRIERS TO COLLECTION OF MEDICO-LEGAL EVIDENCE IN RAPE CASES IMPACTS OF HIV PREVENTION AND CARE

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Background: Evidence suggest that there is high prevalence of rape in South Africa, accompanied by poor reporting and low conviction rates for offenders. Medico-legal services play an important role, securing convictions and also in HIV prevention for victims of sexual violence in particular rape. Shwaranangal Law Advocacy Centre and the Health Economics and HIV/AIDS Research Division (HEARD) at University of KwaZulu Natal carried out a study to explore the barriers to the collection and use of medico legal evidence in prosecution of sexual violence cases.

Description: The research was conducted in Gauteng, Eastern Cape, Mpumalanga and KwaZulu Natal. The sample included doctors and forensic nurses at health centres, forensic detectives within South African Police Services, specialist prosecutors, case managers and site coordinators at Thuthuzela Care Centres. Ethical approval for the study was given by the University of KwaZulu Natal Human and Social Science Research Ethics.

Lessons learned: Inadequate human and financial resourcing of targeted departments, contempt for survivors of violence, uneven knowledge and poor implementation of sexual assault procedures and policies and a lack of adequate knowledge by survivors to respond after a sexual assault in ways that safeguard evidence and reduce further harm to themselves. All these had the potential to undermine access to fairer and more efficient forensic procedures and effective access post rape services timeously and, in so doing preventing exposure to further harm.

Conclusions/Next steps: The need to advocate for adequate resourcing of the relevant government departments, to ensure that services required for survivors of violence are accessible and available. Gender sensitivity training and programmes for duty bearers, who are the first point of contact with survivors and are expected to ensure survivor get treatment to prevent infection. Awareness raising in communities on responding to sexual assault. It is envisaged that improving the medico legal services will in turn allow victims of rape to have confidence in the system and access post rape services timeously and, in so doing preventing exposure to such harm.

TUPEE525
DESIGN AND VALIDATION OF TEXT-MESSAGES FOR A MOBILE-HEALTH INTERVENTION TO IMPROVE ADEQUACY IN PEOPLE LIVING WITH HIV

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Background: Mobile-health (mhealth) interventions, particularly those based on text-messages (SMS) can be cost-effective to increase antiretroviral treatment (ART) adherence. To ensure their effectiveness, SMS must be adjusted to the specific population of people living with HIV (PLWH). This study design the description and validation of SMS to be used in a randomized-controlled study for a mHealth intervention aiming to improve ART adherence and decrease loss to follow up in PLWH in an HIV clinic in Mexico City.

Methods: Eleven HIV-specialised health-care professionals (HCPS) and 40 PLWH participated in this study. Data were collected from July to November 2015. Six HCPS were asked to write 5 SMS for 4 categories: motivational self-healthcare SMS, reminders of ARV collection, medical and laboratory appointments. Then the SMS were judged by 5 different HCPS based on: a) SMS match with the category (Yes/No), b) SMS usefulness (0-10) and c) SMS fit for PLWH (0-10). We calculated two reliability measurements: judges’ percent agreement (JA) and intraclass correlation coefficient (ICC). SMS were selected if they matched with the category and had usefulness and fit scores above 50 percentile. Lastly, SMS were tested in focus groups of PLWH, where participants commented on language and evaluated them based on: a) the SMS understandable (Yes/No), b) SMS pleasantness (0-10) and c) SMS usefulness (0-10); JA and ICC were calculated. SMS were selected if they were understandable and had usefulness and pleasant scores over 50 percentile. We compared SMS scores by sex, age, disclosure and time since HIV diagnosis.

Results: 128 SMS were submitted and assessed by expert referees, obtaining mean JA=91.66%, usefulness ICC=0.30; and fit ICC=0.30. Thirty-six SMS with the highest scores were retained. We found differences in SMS language preferences, pleasantness and usefulness scores, according to sex, age and time since HIV diagnosis.

Conclusions: The validation process allowed us to obtain 48 well-accepted SMS that vary depending on age, sex and time since diagnosis. This process may be key in ensuring mHealth effectiveness.

TUPEE524
EFFECTS OF HIV PROGRAMMING (PREVENTION AND TREATMENT) ON DEVELOPMENT OUTCOMES (E.G., SCHOOLING)

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Background: The virological and immunological benefits of antiretroviral therapy (ART) in HIV-infected children have been widely studied. However, few studies have examined the effects of paediatric HIV interventions on malnutrition in Africa where 30-50% of children with severe acute malnutrition are HIV-infected. The purpose of this study was to determine the influence of paediatric HIV treatment on malnutrition in the 21 global priority countries in Africa.

Methods: This is an ecological study, which correlated country-level data on nutritional indicators (2007-2014) with paediatric ART coverage (2014) from WHO global health database on child growth and malnutrition, and 2015 UNAIDS progress report on global AIDS epidemic plan. Data were analysed with STATA v.12.0. We explored the pattern of relationships with scatter plots. Pearson’s correlation and linear regression were utilized to explore possible association and adjust for confounders. The β-coefficients were estimated based on the maximum likelihood method. A p-value of 0.05 was considered to be statistically significant.

Results: The mean paediatric ART coverage was 30.3% (SD: 6%) [Range 8%, Chad; 66%, Namibia]. The mean prevalence of the nutritional indicators among under-5 children were: wasting 6.8% (SD: 3.9%) [Range 0.8%, Swaziland; 18.1%, Nigeria]; underweight 16.7% (SD: 6.8%) [Range 5.8%, Swaziland; 30.3%, Chad] and stunting 35.3% (SD: 8.5%) [Range 22.7%, Ghana; 57.5%, Burundi]. Across the 21 countries, paediatric ART coverage had a highly significant inverse linear correlation with prevalence of wasting (r=-0.5, p<0.013) and underweight among under-5 children (r=-0.6, p<0.009). Although not significant, the prevalence of stunting was lower among countries with a higher paediatric ART coverage (r=-0.3, p=0.132). The regression analysis showed that for every 10% increase in paediatric ART coverage, there was a decrease of 1% in prevalence of wasting and 2% in prevalence of underweight. After adjusting for Gini coefficient, poverty index and gender inequality, paediatric ART coverage was the most important correlate with wasting (β = -0.42, 95%CI: -0.8, -0.03; p=0.042).

Conclusions: Our findings suggest that increased paediatric ART coverage lowers the risk of acute malnutrition. To accelerate Sustainable Development Goal 2 on reducing the risk of child malnutrition in the countries, there should be more investments on paediatric ART programmes.

TUPEE526
POPULATION-WIDE ADULT MORTALITY FOLLOWING THE EXPANSION OF ANTIRETROVIRAL THERAPY PROGRAM IN THE RAKAI DISTRICT (UGANDA)

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Background: Studies have demonstrated the impact of ART on the survival of individuals enrolled in HIV care and treatment programs, but there is a scarcity of research evaluating the impact of ART at a population level.

Methods: Demographic and HIV surveillance data come from the Rakai Community Cohort Study (RCCS) for the period covering 1999 to 2013. We use non-parametric survival analysis for estimating trends in (i) the person-years lived in adulthood (ages 228

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The causal impact of ART initiation on household food security over time

TUPEE527

The magnitude and direction of the net effects of ART on household welfare is unclear: patients may incur costs when utilizing ART (e.g., travel); conversely, patients recover health and employment on ART. This study examines the impact of ART on one aspect of household welfare - household food security.

Methods: We utilize routinely collected longitudinal data from the Africa Centre for Health and Population Studies and employ a regression discontinuity design over 2300 observations (collected between 2004 and 2012), to assess the causal impact of ART on three household-level food security outcomes: probability of adult missing any food for financial reasons, probability of adult missing a meal for financial reasons, and probability of a child missing a meal for financial reasons.

Results: For each outcome, ART causes a significant increase in the probability of food insecurity in the year immediately following ART initiation, which diminishes to 0 between 1 and 3 years after ART initiation. In the first year after initiation, ART initiation yields a significant increase in the probability of an adult in the household missing food by 11.3 percentage points (coefficient = 0.113, 95% CI [0.044, 0.183]), a significant increase in the probability of a child in the household missing a meal by 11.8 percentage points (coefficient = 0.118, 95% CI [0.024, 0.213]), and a significant increase in the probability of a child in the household missing a meal by 9.4 percentage points (coefficient = 0.094, 95% CI [0.039, 0.156]). The upper bound on these causal estimates is an approximately 6 fold increase in short-term household food insecurity as a result of ART initiation.

Conclusions: ART initially places a significant burden on household food security; however, this effect disappears over time. It is likely that rapid appetite recovery paired with the financial burden of utilizing ART, which are high relative to income in this community, initially outweigh the longer-term beneficial ART effects on employment and income. Food and financial support programs may help to alleviate the temporary loss in food security following ART initiation, especially in the context of the expanding ART rollout and treatment-as-prevention strategies.

INTerventions TO INCREASE DEMAND, UPTAKE and RETENTION OF VULNERABLE and KEY POPULATIONS for HIV PREvention and CARE PROgrammes

TUPEE529

Does peer outreach increase HIV testing self-efficacy and uptake? Evaluation of the Link Up program in Bangladesh Brooks

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Background: In Bangladesh, brothels house thousands of female sex workers (FSWs) who are at elevated risk of HIV. As part of the global Link Up project, an HIV and sexual and reproductive health peer outreach intervention was introduced in selected brothels. This analysis examines whether Link Up had an impact on FSWs’ HIV testing self-efficacy and uptake.

Methods: A repeated cross-sectional survey was conducted before and after the intervention (June 2014 and August 2015) with all resident FSWs ages 18 to 24 in four intervention and four comparison sites. The survey collected information on

Micro-Economic and Macroeconomic Impacts of HIV Programmes

TUPEE528

One size will not fit all: Divergent preferences for new HIV prevention products across adults, adolescents and female sex workers in South Africa

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Background: The development of antiretroviral (ARV)-based HIV prevention products has substantially changed the prevention landscape, yet little is known about how appealing these products will be to potential users. We conducted a discrete choice experiment (DCE) to measure preferences for oral, topical (intravaginal ring or gel with/without a diaphragm) or injectable ART-based pre-exposure prophylaxis.

Methods: From September to December 2015, we consented and interviewed 340 adults (182 males, 158 females) and 73 adolescent girls (aged 16-17 years) in a household survey, and 122 female sex workers (FSW) recruited in a respondent-driven sampling (RDS) survey in Ekurhuleni, South Africa. Respondents were asked to choose between three hypothetical products with varying attributes over ten choice sets, with an opt-out option. Choice sets were developed through literature review, qualitative interviews and extensive piloting with target populations. Data were analysed using nested and mixed logit models.

Results: Among all groups, the refusal rate for the survey was less than 1%. Although the injectable product was the most favoured product among all groups, preferences for other attributes varied substantially between and within populations. Female sex workers valued high HIV protection around twice as much as adult women (population preference weight ratio (PPWR): 1.87, p<0.04) and adolescent girls (PPWR: 2.14, p<0.02), whilst frequency of use was the key driver of demand among adult women. Adolescent girls were equally concerned with protection from HIV, pregnancy (PPWR: 0.76, p<0.02), and STIs (PPWR: 0.74, p<0.14). Adult males valued both HIV protection (PPWR: 9.35, P>0.01) and STI protection (PPWR: 9.31, p<0.01) around nine times more than pregnancy prevention, and were the only group to indicate that side-effects were important inhibitors of demand.

Conclusions: These results suggest that stimulating demand for new HIV prevention products may require a more nuanced approach than simply developing highly effective products. STI and pregnancy prevention, alongside frequency of use, appears to substantially impact demand. A one-size-fits-all package is unlikely to be an effective or efficient means of delivering new prevention products across different populations. These results strengthen evidence calling for the development of multi-purpose technologies.
Background: In 2006, Ukraine ratified the Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment and undertook to establish a structure which would perform the functions of the National Preventive Mechanism (NPM). In 2012, the country introduced amendments to the Law of Ukraine “On the Commissioner for Human Rights of the Parliament of Ukraine”, according to which functions of NPM were assigned to the Ombudsman’s Office. Ukraine decided to apply the Ombudsman Plus Model. “Plus” means the civil society; the monitors, who have to become actively involved in monitoring visits to closed institutions. Description: The All-Ukrainian Network of PLWH, Kyiv, Ukraine, 1 Secretary of the Ukrainian Parliament Commissioner for Human Rights, Kyiv, Ukraine

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Background: In 2006, Ukraine ratified the Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment and undertook to establish a structure which would perform the functions of the National Preventive Mechanism (NPM). In 2012, the country introduced amendments to the Law of Ukraine “On the Commissioner for Human Rights of the Parliament of Ukraine”, according to which functions of NPM were assigned to the Ombudsman’s Office. Ukraine decided to apply the Ombudsman Plus Model. “Plus” means the civil society; the monitors, who have to become actively involved in monitoring visits to closed institutions.

Description: The All-Ukrainian Network of PLWH, Kyiv, Ukraine, 1 Secretary of the Ukrainian Parliament Commissioner for Human Rights, Kyiv, Ukraine

TUPEE530
PROTECTION OF PLHV’S ACCESS TO MEDICAL SERVICES AT PENAL INSTITUTIONS THROUGH THE NATIONAL PREVENTIVE MECHANISM

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Lessons learned: Recommendations based on the detected violations, which could be fulfilled by penal institutions’ managers, were fulfilled immediately. In case violations had a systematic character, they were reflected in reports. Based on the NPM monitors’ reports, the Ombudsperson of Ukraine sent response acts to the Ministry of Justice of Ukraine and the State Penal Service of Ukraine.

Conclusions/Next steps: As a result of the project, the Ombudsman’s Office is initiating legislative amendments through preparation of a special report “Status of fulfillment of the right for medical aid of PLHIV at institutions of the State Penal Service of Ukraine in 2015” for the parliamentary hearings.

TUPEE531
SUCCESSFUL KEY POPULATION PROJECT START UP IN A SOCIALLY, CULTURALLY AND LEGALLY SENSITIVE COUNTRY - BUY IN OF LINKAGES PROJECT FOR FEMALE SEX WORKERS AND MSM IN MALAWI

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Background: Key population (KP) such as female Sex Workers (FSW), men who have sex with men (MSM), have an important role in HIV/AIDS because of their increased risk and vulnerability. Malawi is one of the high HIV/AIDS burden countries among general population and KP. The prevalence of HIV among FSW and MSM is high, 62.7 and 17.5% respectively and national prevalence is 10.6%. Projects addressing KP to reduce HIV transmission are therefore warranted.

Description: FHI 360 in Malawi with support from PEPFAR/USAID is implementing a five year Project for KP. The aim is to support the Government and KP organizations to meaningfully deliver interventions to reduce HIV transmission and acquisition among KP and extend life for those who are HIV-positive. We conducted several project entry meetings with leadership from Health departments, National AIDS Commission, Central Hospitals, District Health Management, District Executive Committees and other stakeholders. We present a successful buy in approach amid prevailing barriers.

Lessons learned: It was initially difficult to convince some of the senior health leadership and other stakeholders in the four operational districts to support operations of KP project, but succeeded. KP Project was viewed as “promoting sex work and gay marriage rights” which is against the social-legal and moral norms of Malawi. The magnitude and or existence of FSW, MSM respectively has been a general subject of debate in Malawi, with some people thinking these groups are insignificant to cause public health concern, being unaware of the high prevalence. We used evidence based and sound advocacy skills used to secure the buy in. The emphasis was on health rights, the sexual interaction dynamics between KP and general public regarding HIV/AIDS. The official commitment of the Government of Malawi towards HIV prevention among key population was also our leverage point.

Conclusions/Next steps:
• Sensitive projects require pragmatic, informative and non-confrontational approaches to have buy in, by stakeholders.
• There should be meaningful involvement of opinion leaders to gain acceptance of projects.
• Build on documented government commitment to move forward sensitive programs.

TUPEE532
AN INDICATION OF EARLY SUCCESS OF KEY POPULATION PEER-LED INITIATIVES TO REACH, TEST AND TREAT FOR FEMALE SEX WORKERS

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Background: HIV prevalence among female sex workers (FSWs) in Malawi is estimated to be 62.7% compared to an estimated 10.6% in the general population. FSWs serve clients from the general population and therefore are a critical group in the spread of HIV in a population. Malawi has adopted the UNAIDS 90-90-90 target to provide a continuum of HIV care services to HIV infected individuals. PIHDC is implementing an intervention project among FSWs, LINKAGES HIV prevention, care and treatment which is supported by USAID. The aim of the intervention is to reduce HIV transmission among FSWs and improve the quality of life of key populations (KP) living with HIV. Clients are followed through the HIV cascade framework of reach, test, treat and retain (on ART).

Methods: It is a follow-up design project. We identified FSWs who mobilized their peers from their hotspots. FSWs were asked to select peer educators who were trained to reach up to 40 peers each with behavior change messages that promote HTC, STIs, gender based violence, family planning screening and PMTCT. All those reached through trained peer educators were linked to access care through outreach, mobile clinics and health facilities. In addition, we engaged peer navigators (HIV+ FSWs) to support HIV+peers to enrol and retain them on treatment.

Results: Of the 1284 FSWs reached, 191 were tested for HIV between October and December 2015. Of those tested 47% (N= 90) were HIV+ve and 87.7% (79) were enrolled in care (pre-ART) while 80% (63) were initiated on treatment. 8 default-
ers were identified and were successfully put on ART again after being identified through our peer-led strategy.

**Conclusions:** Implementing the LINKAGES HIV cascade framework provides early insights, a pointer to a successful program guiding KP interventions towards the 90-90-90 target among FSWs. Involvement of FSWs peers help to get new enrollees for prevention, care, and treatment and bring back those non-adherent to intervention in the HIV service cascade.

**TUPEE533**

**AFRICA KEY POPULATION EXPERTS GROUP: SEX WORKERS, MEN WHO HAVE SEX WITH MEN, TRANSGENDER PERSONS AND PEOPLE WHO USE DRUGS TAKE A LEAD IN PROVIDING STRATEGIC DIRECTION TO THE HIV RESPONSE IN AFRICA**

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**Background:** Despite significant progress in reducing HIV infections and expanding treatment in Africa, hostile legal and social environments have resulted in sex workers (SWs), men who have sex with men (MSM), transgender people (TGs) and people who use drugs (PWUDs) being disproportionately affected by HIV. As changing this situation requires, amongst other things, enhanced engagement of these groups at policy and strategy level, in 2014 UNDP supported the establishment of the Africa Key Population Experts Group.

**Description:** The Experts Group is comprised of around fifty MSM, TGs, PWUD and SWs drawn from sixteen African countries. Members are selected to the group in their individual capacity on the basis of their policy and programme expertise in HIV prevention and promoting human rights for KPs but they do not represent either their countries or the organizations and networks that they belong to. The group operates through regular face to face meetings as well as virtual electronic communication and has conducted three meetings between May 2014 and May 2015.

**Lessons learned:** Although identifying enough number of TGs and PWUDs has been challenging, the Experts Group is the first group that brings together these four KPs for collective advocacy, capacity development and skills building and provides a unique platform which significantly enhances their capacity to engage in important policy and strategy processes at regional, national and sub-national levels. The main achievement of the group to date has been the development of a Model Regional Strategic Framework on HIV for KPs which has been extensively used in fifteen countries as input into Global Fund processes, National Strategy reviews, research design, national reports, conferences, etc. and by two Regional Economic Communities, SADC and the EAC. The group also acts as the Regional Advisory Group for the Africa Key Population Experts Group.

**TUPEE534**

**DROP-IN CENTERS DRIVE HIGHER YIELD AND BETTER LINKAGE TO TREATMENT FOR FSWS IN ETHIOPIA**

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**Background:** MULUI is a USAID-funded HIV prevention project focused on key and priority Populations in Ethiopia. Female sex workers (FSWs) are highly marginalized and underserved population with an HIV prevalence of 24%, 16 times higher than the prevalence among women in the general population. Drop-In Centers (DICs), which provide social support, HIV testing, and linkage to treatment services have been an effective strategy to identify and link FSW with care, and diagnose HIV-positive FSWs.

**Description:** The project established 54 DICs in areas with a high density of FSW in towns with more than 500 sex workers. All DICs were licensed by the local government to provide clinical services including HIV testing services and linkage to treatment. The DICs were established with standard operating procedures to ensure MARPs friendliness in terms of access, provider attitude, confidentiality and availability of services. HIV testing results were analyzed from registrations anonymously. Referrals and linkage to treatment were tracked using a labelled voucher system, and completed vouchers were collected from the MULUI clinic network of public and private facilities that provide HIV treatment.

**TUPEE535**

**INCREASING HEPATITIS C KNOWLEDGE AMONG DRUG USERS ENGAGED IN METHADONE TREATMENT IN MALAYSIA**

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**Background:** Hepatitis C (HCV) disproportionately affects people who inject drugs (PWIDs). Many misconceptions about HCV transmission exist among PWIDs, and overall knowledge, perceived risk and treatment interest is limited. Moreover, methadone has been shown to reduce risky behaviors responsible for transmitting HCV, and methadone clinics provide an opportunity to integrate HCV screening, education and treatment referrals. Therefore, the aim of this study is to determine baseline HCV knowledge and assess the impact of HCV education among PWIDs engaged in methadone treatment.

**Methods:** We enrolled 98 participants who routinely attended a methadone clinic in Malaysia. All participants completed a 1-hour standardized education session, socio-demographic questionnaires, and an HCV knowledge assessment at three time points: baseline, immediately after, and 4-weeks after the session.

**Results:** The mean age and dose of methadone are 44.5 (9.41) years and 115 (63.09) mg, respectively. The majority of participants are male (92.9%), employed full-time (56.1%), and have a history of injection drug use (74.5%). 24.5% are HIV-positive, 65.3% have been screened for HCV, and 16.3% are currently undergoing HCV treatment. At baseline, only 34.7% and 45.9% knew they could receive HCV treatment if HIV-positive or while on methadone, respectively. 25.5% knew that bleach, boiling water or alcohol would not sterilize needles against HCV, 32.7% knew that HCV re-infection could occur, and 53.1% were aware that no-cost treatment was provided at public hospitals. Perceived barriers to treatment included: not knowing where to go (35.7%), expensive medications (15.3%), and lengthy treatment durations (16.3%). Out of a possible 40 points, the average baseline score was 14.81 (8.45). Immediately after the session, scores increased 82.4% to an average of 27.02 (7.86; p< 0.001), and knowledge was retained with an average score of 24.32 (7.83; p<0.001) 4-weeks after the session.

**Conclusions:** This study shows that knowledge and HCV screening is low among PWIDs engaged in methadone treatment in Malaysia. A brief, but comprehensive HCV education session is a low-cost and effective strategy in improving overall HCV knowledge, perceived risk and treatment interest in this high-risk population.
TUPE538
JOINT PEPFAR/GLOBAL FUND KEY POPULATION CASCADE ASSESSMENT IN MALAWI


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Background: HIV programming for key populations (KP) - including men who have sex with men and sex workers - demands new and innovative tools for monitoring uptake of services, identifying gaps, and addressing structural barriers. The "HIV cascade" provides a useful conceptual tool for understanding population-level engagement within three stages of prevention and five stages of care and treatment. Through routine data collection, KPs can be monitored for "leaks" along the cascade to inform program improvement. In February 2016, a Joint Global Fund/PEPFAR Cascade Assessment was conducted in Malawi, through the LINKAGES project, to describe the HIV cascade for KP, identify "leaks" across the cascade, and refine LINKAGES and Global Fund interventions.

Description: The Joint team reviewed available LINKAGES programmatic and clinical data, and met with representatives of government, KP community-based organizations, and health facilities to better understand the needs of KPs, and the facilitators and barriers to increased service access and availability.

Lessons learned: As Malawi moves toward comprehensive HIV/AIDS programming for KPs, implementers must reorient prevention, treatment and care models to include both community- and facility-based services. LINKAGES utilized micro-planning at the community level to map hot spot venues and generate size estimates to guide programming, including development of peer educator ratios to enable scalable KP outreach. In the first quarter of implementation, LINKAGES estimated 2,625 female sex workers (FSW) in Lilongwe, and reached 685 with community-based prevention services (26%). Of the 685, 279 were HIV-positive (41%). However, only 28 (10%) were documented as being enrolled in care. Pervasive human rights abuses, stigma and discrimination, and gender-based violence hinder demand for and accessibility to comprehensive HIV services. New programmatic interventions, including establishment of drop in centers providing ART, access to test and start ART, and peer navigator systems are planned to reach additional FSW and increase uptake of HIV testing, and improve linkage to care and treatment.

Conclusions/Next steps: Joint PEPFAR/Global FundCascade Assessments are aligning available programmatic and clinical data sources to evaluate and improve community- and facility-based HIV/AIDS services for KP. Joint assessments are an emerging global best practice that can be replicated in other countries.

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Background: Transgender women (TW) represent a population-at-risk for HIV infection in Peru. Holistic HIV prevention, testing, and treatment interventions that are responsive to the lived realities of TW and healthcare providers serving them are urgently needed. The current study gathered perspectives from healthcare professionals and TW in Peru to inform future community-based intervention approaches, including potential acceptability of combining HIV services with gender-affirmative medical care (e.g. cross-sex hormone therapy).

Methods: A mixed-methods study was conducted in January-February 2015 in Lima, Peru consisting of focus groups (FGs) and a brief survey. Seven FGs were conducted: two with healthcare professionals (Ni=19) and five with TW (Ni=48). FG transcripts were double-coded and analyzed utilizing an immersion crystallization approach to identify themes; descriptive analyses of survey data were conducted.

Results: Healthcare professionals (53% cisgender female; mean age=39 years) represented a variety of professions: 16% doctor, 26% nurse, 21% psychologist, 11% obstetrician, 26% other. Overall, TW (mean age=29 years) were at high-risk for HIV; condom/lubricant promotion, and HIV/STI screening referrals. We evaluated the effects of the program on uptake of HIV testing among FSW.

Methods: In May-June 2015, we conducted cross-sectional survey of 1,176 FSW aged ≥18 years that received outreach services in seven geographic regions, collecting sociodemographic and service utilization data, selecting FSW using probability proportional to the size of the entertainment establishments where they worked. Binary logistic regression was used to identify the effects of outreach on uptake of HIV testing in the last 12 months, controlling for sociodemographic variables.

Results: Overall, 84% of FSW in the program were tested for HIV in the previous 12 months. The odds of having had an HIV test in the previous 12 months were higher for FSW that: received information about HIV testing and condom use from program outreach workers in the past 12 months (OR=1.74, p< 0.001), received a referral slip for FP services from outreach workers (OR=2.1, p=0.01), or received HIV/AIDS information from facility-based FP service providers in the past 12 months (OR=4.1, p<0.1).

Conclusions: These findings show a high overall rate of uptake of HIV testing among FSW in the program (84%); more than the national DHS estimate of 70% of Cambodian FSW that were tested for HIV in the past 12 months in 2013. The findings also suggest the value of outreach on uptake of HIV testing among FSW. Key drivers of increased uptake of HIV testing were the provision of HIV-related information (by facility-based FP staff that were not part of the program, and by outreach workers that were) and referrals for FP services by outreach workers, which brought FSW to facilities that also provided HIV testing.

TUPE537
FROM BROTHELS TO PARLIAMENT: LESSONS LEARNT FROM SCALING UP A RIGHTS-BASED SEX WORKER HIV PROGRAMME

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Background: The HIV risk that sex workers face universally is heightened by contextual factors in South Africa, including a generalised epidemic, criminalisation and high rates of violence. The Red Umbrella Programme is a national peer-led combination prevention programme managed by NACOSA, funded by the Global Fund. Whilst the foundation of the programme is bio-behavioural interventions, the programme also includes structural interventions, including collective mobilisation, skills development; and interventions to reduce stigma and discrimination.

Description: The Red Umbrella Programme was implemented from October 2013-March 2016, by 19 civil society organisations. 616 sex worker peer motivators were employed to conduct Outreach, HCT and Risk Reduction workshops at 74 sites, in all 9 provinces. A 24-hour, national toll-free helpline is operated by sex worker counsellors. Leading sub-receipt SWEAT, implemented structural interventions to create an enabling environment, including sex worker capacity-building; sensitisation of stakeholders, social mobilisation via Sisonke Sex Worker Movement; and strengthening of sex workers’ participation in HIV coordinating structures.

Lessons learned: Results are reported from three sources:

1) Programme Data: to date, 24,825 sex workers have tested for HIV;
2) Good Practice Guide: the results of a workshop that was held to assess how sex worker site coordinators had tailored the programme to their local contexts was published and;
3) Programme Evaluation: the evaluation (in press) will compare sex workers’ current knowledge and behaviour with the results of a 2013 survey.

Conclusions/Next steps: For Phase III, the programme has integrated lessons learnt from stakeholders with evolving disease and treatment trends. The health component will be strengthened; referral for ART will be added. Phase III aims to improve data management further so that incidence and prevalence can be measured. However, activities related to creating a legally and socially enabling environment have been discontinued. An up-scaled, coordinated response to the violation of sex workers’ rights remains a challenge.

TUPE539
PERCEIVED BARRIERS AND FACILITATORS TO COMBINING DELIVERY OF HIV PREVENTION, TESTING AND TREATMENT SERVICES WITH FEMINIZING HORMONE THERAPY FOR TRANSGENDER WOMEN IN LIMA, PERU

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Background: Transgender women (TW) represent a population-at-risk for HIV infection in Peru. Holistic HIV prevention, testing, and treatment interventions that are responsive to the lived realities of TW and healthcare providers serving them are urgently needed. The current study gathered perspectives from healthcare professionals and TW in Peru to inform future community-based intervention approaches, including potential acceptability of combining HIV services with gender-affirmative medical care (e.g. cross-sex hormone therapy).

Methods: A mixed-methods study was conducted in January-February 2015 in Lima, Peru consisting of focus groups (FGs) and a brief survey. Seven FGs were conducted: two with healthcare professionals (Ni=19) and five with TW (Ni=48). FG transcripts were double-coded and analyzed utilizing an immersion crystallization approach to identify themes; descriptive analyses of survey data were conducted.

Results: Healthcare professionals (53% cisgender female; mean age=39 years) represented a variety of professions: 16% doctor, 26% nurse, 21% psychologist, 11% obstetrician, 26% other. Overall, TW (mean age=29 years) were at high-risk for HIV;
67% self-identified as a sex worker and 29% were unsure of their HIV status. TW participants described hormones as a crucial step in gender affirmation; however, the majority of TW narratives described using hormones without medical consultation and under the guidance of friends/community members. Healthcare professionals echoed the importance of hormones to TW patients and lack of routine medical supervision.

Conclusion: Providing hormones as part of gender affirmation care is essential. Healthcare providers should inform TW patients about the availability of hormones and the importance of regular medical consultation.

TUPEE540

HIV CASCADE OF CARE AMONG PEOPLE WHO USE DRUGS IN VIETNAM: FINAL GAPS AND FUTURE STRATEGY

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Background: In Vietnam, the HIV epidemic has been driven by drug injection. Despite major efforts on risk reductions, rapid HIV elimination will require a high coverage of suppressive ART within people who inject drugs (PWID). Our study aimed at assessing the cascade of HIV care and to estimate the current HIV incidence among active PWID in Hai Phong (2 million inhabitants).

Methods: We conducted a community-based Respondent Driven Sampling (RDS) survey in May 2014, recruiting active users with positive urinary drug tests. After a standardised questionnaire, blood was drawn for HIV testing, CD4 count and HIV viral load when appropriate. Then, 250 RDS participants were enrolled in a longitudinal study with follow-up at week 12, 24 and 52 including HIV tests. Participants were supported by trained peers to register at methadone and HIV clinics.

Results: At the RDS survey, 603 participants were recruited in 3 weeks including 8% MSM, 7% FSW, 15% early injectors (< 2 years injection) and 69% of “regular injectors”. Heroin was the only injected drug. HIV and HCV prevalence was 25.2% and 37.3%, respectively. Of the 152 HIV-infected participants, 82 (53%) reported knowing about the existence of antiretroviral therapy (ART), 75 (49%) knew of the ART efficacy. Repeated contact by healthcare professionals for providing care to TW was (4) service providers when utilizing HIV-related services. Engagement with healthcare providers is associated with a greater number of experiences of discrimination, which may serve as a disincentive for seeking services among MSM. Assessing provider discrimination and training of the healthcare workforce might improve utilization of HIV-related services.

TUPEE541

EXPERIENCES OF PROVIDER DISCRIMINATION IN ACCESSING MEDICAL AND HIV PREVENTION SERVICES BY MEN WHO HAVE SEX WITH MEN INCLUDING TRANSGENDER MEN GLOBALLY

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Background: Bringing an end to the HIV/AIDS epidemic requires engagement of key populations in quality services. Previous research has shown that men who have sex with men (MSM) including transgender MSM and non-transgender (cisgender) MSM do not feel that their health care providers (HCPs) are sensitive to their needs are less likely to access health services. The nature of such negative experiences with health care providers remains unexplored. We conducted a cross-sectional, global survey of transgender and cisgender MSM. This study sought to explore provider discrimination and its association with service utilization.

Methods: The 2014 Global Men’s Health and Rights Study was administered to 3857 participants who completed the online survey, available in seven languages. Participants were asked about provider discrimination related to their sexual orientation or gender identity. Respondents were asked the frequency of the following provider experiences within the past 6 months: poor treatment, refusal of treatment, being judged, being reprimanded, and unauthorized disclosure of sexual orientation or gender identity. Responses to these items were averaged to calculate a composite scale on provider discrimination (α=0.8698). Multivariable analyses were used to explore the association of discrimination with service utilization within the past 6 months, controlling for demographics and service accessibility.

Results: 2,464 MSM completed the survey items of interest, including 97 (3.9%) transgender MSM. Many reported some form of healthcare coverage (86.0%) and having an HCP (70.1%). 16% of the sample had ≥1 experience of discrimination: poor treatment (10%), refusal of treatment (4%), being judged (12%), being reprimanded (7%), and unauthorized disclosure (5%). Provider discrimination was significantly (p<0.05) associated with: STI testing (odds ratio, OR 1.9), having a medical visit (OR 1.6), HIV testing (OR 1.6), and HIV prevention (OR 1.7). Accessing condoms, which does not require provider interaction, was not associated with discrimination.

Conclusions: Transgender and cisgender MSM report recent discrimination by their providers when utilizing HIV-related services. Engagement with healthcare providers is associated with a greater number of experiences of discrimination, which may serve as a disincentive for seeking services among MSM. Assessing provider discrimination and training of the healthcare workforce might improve utilization of HIV-related services.
Abstract Book | www.aids2016.org

TUPE544
REACHING UNREACHABLE POPULATION: MULTI-COLLABORATION FRAMEWORK TO IMPROVE YOUNG KEY POPULATION ACCESS TOWARDS HIV-RELATED SERVICES IN DEMONSTRATION SITE OF BANDUNG, INDONESIA

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Background: The LOVEPOP Project (Linkages Quality Care for Young Key Population) has been initiated by UNICEF Indonesia in collaboration with Ministry of Health, National AIDS Commission and Young Key Population Network to response emerging HIV prevalence among YKPs in Indonesia. IBS 2011 data from the Ministry of Health show that they are getting infected with HIV in worrying levels while still adolescents or young adults. Young people in the key populations (YKP) have high rates of infection and are at the center of the epidemic, but have the least access to information and services. In the absence of specific program that will be able to increase access for YKPs towards HIV-related services, a model intervention is deemed necessary.

Description: In late 2014, a comprehensive participatory need assessments involving local stakeholders have been conducted in Bandung City, as demonstration site. As a result, multi-collaboration framework to target enabling environment, development, creation, supply side and strategic information components have been agreed among national and local partners. The framework is implemented within the existing national strategy of strategic use of ARV with primary goal to increase access to HIV testing, treatment and adherence. Each partner took particular roles according to their primary scope of work.

Lessons learned: YKP-friendly training for service providers was implemented to support supply side component. Simultaneously, YKP sensitization workshop was conducted for outreach workers. YKP designated online communication platform and IEC materials have been developed to support education and promotional of the project. Series of coordination meetings were employed to closely monitor the progress. Within six months of project implementation, number of HIV testing among YKPs in Bandung has been increased 66% from baseline data. Similarly, 67% increase is found in number of YKP receiving ART.

Conclusions/Next steps: Collaborative approach targeting multi-dimensions of programmatic aspect is deemed effective to boost unreachable population such as YKPs. Similar methods can be utilized to expand the program in wider districts.

TUPE545
CAPTURING ORPHAN AND VULNERABLE CHILDREN'S DATA

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Background: Orphans and Vulnerable Children (OVC) affected by HIV became an issue of national concern in 1999 after HIV/AIDS was declared a national disaster by Kenya’s President. Kenya adopted the United Nations General Assembly Special Session goals aimed at addressing orphanhood as a priority to address vulnerable children faced by children affected by and living with HIV. OVC programs provide a strong platform within communities to effectively identify HIV-infected children and caregivers who do not present to health facilities. They facilitate linkages and referrals to facility and community-based HIV related services through mobilization and result in strengthening of relevant systems and structures.

Description: PEPFAR OVC programs focus on implementing core interventions and improving referral networks in priority counties where the HIV prevalence and number of PLHIV and OVC is highest. In FY 14, 711,436 OVC received services in Kenya. 507, 327 (71.3%) of which were ever tested for HIV. Of the OVC who had been tested, 33,738 (7%) were HIV positive and 31,868 (94%) were linked to care and treatment.

To capture accurate data for OVC HTC testing, an OVC Longitudinal Management Information System (OLMIS) was utilized. The OLMIS contributes to HTC by maintaining a longitudinal history of an OVC and caregiver over time while assuring confidentiality through restrictive access and password. The OLMIS captures OVC and caregiver information on data tools and facilitates the use of data for decision making and strategic planning. Innovative functions built into the OLMIS include: validation of data during entry, online transmission of data from local implementers,
and tracking of individual OVC to establish gaps in HIV testing and linkage to care and treatment.

**Lessons learned:** The OLMSI facilitates the provision of targeted support based on the level of vulnerability and facilitates the tracking of services provided, defaulters, and effective referrals.

**Conclusions/Next steps:** The utilization of the OLMSI enables OVC Programs in Kenya to track and follow individual OVC. Tracking individual OVC has helped to identify existing gaps when linking OVC to HTC and to care and treatment. The lists that the OLMSI generates leads to improved and more precise follow-up of HIV-infected children by Community Health Volunteers.

**TUPEE546**

**INTEGRATING BRIEF GBV PREVENTION INTERVENTION INTO HARM REDUCTION PROGRAMS FOR WOMEN WHO USE DRUGS IN KYRGYZSTAN: REDUCED VIOLENCE, INCREASED UPTAKE OF HIV SERVICES**

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**Background:** The widespread problem of gender-based violence (GBV) among women who use drugs in Central Asia constitutes a serious human rights violation, which is also driving the HIV epidemic in this region. There is an urgent need for brief GBV interventions that can be delivered in low-threshold harm reduction settings in Central Asia and other countries with heroin epidemics.

**Description:** This study evaluated the feasibility and preliminary effects of WINGS, a 2-session evidence-based GBV screening, brief intervention, and referral to treatment (SBIRT) model for GBV screening and counseling (HTC) in identifying and reducing GBV, completing HTC and linking women to GBV and HIV services among women who use drugs in Kyrgyzstan. Using a pre-/post-design, we employed random effects Poisson and logistic regression analyses for continuous and dichotomous outcomes, respectively.

We screened 109 women who use drugs from two harm reduction sites in Kyrgyzstan, 73 of whom met the criteria, completed a baseline survey and enrolled in the study, and 66 women completed a 3-month post-intervention.

**Lessons learned:** The study identified extremely high rates of GBV among the sample: 73% reported any physical or sexual violence by an intimate partner (IPV) and 60% reported any physical or sexual violence by others (GBV) in the past year. At the 3-month follow-up, participants reported experiencing 59% fewer physical IPV incidents in the prior 90 days than at baseline (p<.001) and 27% fewer physical GBV incidents (p=.02). Participants were more likely to report receiving GBV services (p<.001). The large majority of women (89%) completed HTC. Of these, 4 (7.7%) tested positive for HIV and 3 were linked to HIV care.

**Conclusions/Next steps:** The high rate of participation, significant reductions in GBV and completion of HIV testing from baseline to the 3-month follow-up suggest the feasibility and promise of this brief intervention for low-threshold harm reduction settings.

**TUPEE547**

**ACTIVE CASE-FINDING IN ORPHANS AND VULNERABLE CHILDREN**

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**Background:** OVC affected by HIV became an issue of national concern in 1999 after HIV/AIDS was declared a national disaster by Kenya’s President. Kenya has a large population below the age of 18 years estimated at 48 percent and an estimated OVC population of about 2.6 million, nearly half of these are AIDS orphans. OVC programs provide a strong platform within communities to effectively identify HIV-infected children and caregivers who do not present to health facilities. They facilitate linkages and referrals to facility and community-based HIV related services through mobilization, and result in strengthening of relevant systems and structures.

**Description:** OVC have an increased risk of exposure to GBV and as a result, they are at risk of increased violence, discrimination and stigma. Community mobilization is very important in improving referral networks in priority counties where the HIV prevalence and number of PLHIV and OVC is highest. In FY 14, 711,436 OVC received services in Kenya, 507, 327 (71.3%) of which were ever tested for HIV. Of the OVC who had been tested, 33,738 (7%) were HIV positive and 31,868 (94%) were linked to care and treatment. Various strategies to scale-up HTC for OVC were utilized in Kenya, including:

1. Integrating testing within community services,
2. Mobilization and sensitization,
3. Targeted outreach by health facilities with the community,
4. Door-to-door testing,
5. same-day HTC for the child and caregiver,
6. Facility-based PITC and
7. Quarterly tracking of HIV status through the OVC Longitudinal Management Information System.

**Lessons learned:** In order for HTC in OVC programs to be successful, adequate community mobilization and sensitization is vital. To support this, planning with the MoH ensures adequate supply chain management of HIV test kits. Further, training and use of sessional counselors is essential. These workers often already have a heavy workload, so proper training is essential.

**Conclusions/Next steps:** In the Kenya OVC program, testing strategies for OVC resulted in a high positivity rate. OVC platforms can be used to identify children infected with HIV and close the treatment gap between adults and children. Given OVC have risk factors for HIV, programs should seek to implement case-finding strategies that identify HIV-infected OVC in a timely and efficient manner and ensure linkage to care and treatment within health facilities.

**FUNDING FOR PROGRAMMES FOR KEY POPULATIONS**

**TUPEE548**

**COST ANALYSIS OF VIOLENCE REDUCTION INTERVENTIONS FOR FEMALE SEX WORKERS IN KARNATAKA, INDIA**

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**Background:** The Gates funded, India Ahavan HIV prevention programme for Female Sex Workers (FSWs) in south India (2003-2013) integrated an ‘essential’ package of HIV prevention programming with a ‘structural’ intervention addressing upstream drivers like stigma, violence and discrimination. Epidemiological evidence from Karnataka suggests a significant reduction in HIV/STI infection among FSWs. Polling booth survey data from 15813 FSWs from 16 districts suggests a substantial reduction over time in proportion of FSWs reporting being raped in the past year (30.0% in 2007, 10.0% in 2011, p<0.001). However the resources needed for such interventions remain unquantified but is necessary for policy makers to estimate how much they need to invest, and what would be the value added. This study assesses the incremental costs of violence reduction interventions for FSWs in Karnataka and provides empirical evidence from real study settings.

**Methods:** We collected intervention financial and programme output data from 16 districts in Karnataka, India for the period 2007-2011 from a provider perspective using an ingredients top-down approach. The activities are carried out at three levels namely policy level advocacy with government officials, secondary stakeholders like police, lawyers and media, and primary stakeholders (female sex workers). All costs are presented in US$ 2011 [3% discount rate].

**Results:** The total costs of violence reduction interventions of 16 districts was $216,365 with an average cost of $144,243 ($55,182-$460,058). The costs by sub-activity showed that community empowerment activities incurred 46% of the costs followed by legal support (18.4%), advocacy (17.9%) and access to social entitlements (17.6%). The number of reported incidents of rights violation against FSWs followed by legal support (18.4%), advocacy (17.9%) and access to social entitlements (17.6%). The number of reported incidents of rights violation against FSWs.
TUPEE549
MATCHING PEPFAR FUNDED HIV PREVENTION ACTIVITIES AND SPENDING FOR PEOPLE WHO INJECT DRUGS WITH EVIDENCE: OPPORTUNITIES TO INCREASE ALIGNMENT

amfAR, The Foundation for AIDS Research, Washington, United States

Background: People who inject drugs (PWID) constitute a disproportionate burden of the HIV epidemic, accounting for nearly 1/3 of new HIV infections outside of sub-Saharan Africa. PEPFAR has funded prevention programs targeting PWID since its inception, and established the IDUP budget code in 2009 to track allocations. We exclusively analyzed Country Operational Plans’ (COPs) IDUP funding from 2009-2015 and Expenditure Analyses (EAs) for PWID in 2013-2014. Use of mechanism narratives post-2013 have been discontinued, so COP2013 IDUP narratives (n=71) were reviewed and coded for activities outlined in COP2013 and WHO technical guidance for PWID. HIV prevalence ratios (PRs) comparing PWID to the general population were calculated for countries and regions with available data (n=17) and plotted against 2014 PWID expenditure as a percent of total prevention spending.

Results: Overall IDUP funding steadily decreased from COP2013-2015 despite mechanization of IDUP funding increasing during this period. The most frequent PEPFAR-funded activity for PWID was technical assistance and capacity building (14%) - equally least frequent were needle and syringe programs (NSPs) and policy reform around PWID (3% respectively). PWID-specific spending in 2014 amounted to less than 10% of prevention expenditure in 14 (82%) countries, 5 (36%) of which had PRs greater than 20.

Conclusions: Strong resource allocation for PWID is a critical HIV prevention opportunity, especially where HIV prevalence among PWID is high. To adequately plan IDUP funding, investments in data collection and adherence to international guidelines are necessary. Evidence-based prevention activities in the WHO guidance should be considered funding priorities; including NSPs. US government restrictions on NSP support are problematic, particularly when domestic restrictions have been lifted. Moreover, mechanism narratives help to identify funded PWID activities. Without indication of these activities, transparency is diminished.

TUPEE550
CHALLENGES AMID INCREASES IN PEPFAR COP INVESTMENTS FOR MSM AND TRANSGENDER INDIVIDUALS, 2013-2015

amfAR, The Foundation for AIDS Research, Public Policy Office, Washington, United States

Background: People who inject drugs (PWID) constitute a disproportionate burden of the HIV epidemic, accounting for nearly 1/3 of new HIV infections outside of sub-Saharan Africa. PEPFAR has funded prevention programs targeting PWID since its inception, and established the IDUP budget code in 2009 to track allocations. We exclusively analyzed Country Operational Plans’ (COPs) IDUP funding from 2009-2015 and Expenditure Analyses (EAs) for PWID in 2013-2014. Use of mechanism narratives post-2013 have been discontinued, so COP2013 IDUP narratives (n=71) were reviewed and coded for activities outlined in COP2013 and WHO technical guidance for PWID. HIV prevalence ratios (PRs) comparing PWID to the general population were calculated for countries and regions with available data (n=17) and plotted against 2014 PWID expenditure as a percent of total prevention spending.

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INTEGRATION OF HIV AND SEXUAL AND REPRODUCTIVE HEALTH FOR KEY POPULATIONS

TUPEE553
ACCESS TO HIV SERVICES FOR NIGERIA'S INTERNALLY DISPLACED PERSONS: THE NEED FOR INCLUSION

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Background: Nearly 3.3 million Nigerians live as refugees in Internally Displaced Peoples (IDPs) camps within Nigeria and in the adjoining countries. Nearly all these individuals were forced to leave their homes amidst the Boko Haram insurgency. With an HIV prevalence rate of 3.2% among 15- to 49-year-old, the response of the Nigerian government to the health needs of these displaced individuals with particular reference to HIV/AIDS has been underwhelming. There is a strong relationship between conflict and HIV/AIDS spread. The IDPs are particularly susceptible because of sexual violence & exploitation, lack of access to reproductive health services, and lack of health infrastructure. There is also the risk of further spreading HIV to the host communities.

Description: A media review using newspapers and the internal displacement monitoring center (IDMC) was done to identify the history of IDPs, their locations, main health issues. A literature review was done and informal interviews were carried out to identify the challenges of providing HIV/AIDS care services in such settings. Lessons learned: Many IDP camps in Nigeria do not provide HIV counseling and testing to identify new cases. HIV/AIDS awareness campaigns, or ARV refills for patients already on medications. Newly diagnosed HIV patients are not integrated into the health system. Reasons for these include
1) No coherent policy on HIV/AIDS in camps
2) Lack of funds
3) Non availability of PEPFAR drugs in the camps
4) Non integration of IDP camps with nearby primary health centers.

Conclusions/Next steps: The chaos and instability in IDP camps has created numerous challenges of access to care for HIV/AIDS. The federal and state government must integrate and coordinate with NGOs and international organizations working with IDPs to provide comprehensive HIV/AIDS care services urgently. There is also a need to track HIV/AIDS incidence and prevalence in camps and create long term HIV/AIDS strategies that work beyond the current instability. Nigeria must invest in critical public health infrastructure.

TUPEE554
SEXUAL HEALTH NEEDS OF WOMEN WHO INJECT DRUGS IN KENYA: IMPLICATIONS FOR HIV AND SRH PROGRAMMES

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Background: HIV prevalence among women who inject drugs in Kenya is high at 44.5% (NASCOP 2012). Harm reduction interventions targeting people who inject drugs are generally focused on injecting practices, and often gender blind. Sexual and reproductive health (SRH) needs and rights of people who inject drugs, particularly women who use drugs, are poorly understood and addressed. To remedy this, this study explored sexual and reproductive health needs of women of reproductive age who inject/use drugs in Coastal Kenya, to inform the development of community-based and outreach-based integrated SRHR and harm reduction services.

Methods: Semi structured interviews (n=24), and focus group discussions (4 sessions, n= 28) were conducted with women of reproductive age who use drugs in Mombasa and Kilifi, Kenya. The mean age of the participants was 29, age range was 19 - 56; and mean duration of injecting was 2.8 years and using drugs was 8.5 years. Interviews and focus group discussions explored contraceptive use and access, pregnancy and termination, parenthood, sexual practices and awareness and experience of sexually transmitted infections and intimate partner violence. Data were analyzed using NVIVO software to identify and codify key themes.

Results: Out of 53, 99% had ever tested for HIV, 5 were not willing to disclose their status, 1 had not tested and 13 were HIV positive. Nine of the respondents reported at least one unintended pregnancy. Respondents reported going for ante-natal care (ANC) either late or at the time of delivery. Barriers to ANC and PMTCT services reported were: costs, service provider attitudes and the lack of time. Some of the participants had delivered outside of a health facility. The rates of follow up on im-

Conclusions: Disproportionate HIV risk necessitates FSW’s prioritization in resource allocation. PEPFAR COP funding for FSW has increased in recent years, however, there is extreme country variability. Bolstering funding commitments for FSW in settings with wide disparity in HIV risk for FSW is epidemiologically sound and vital to the HIV response. Stakeholder involvement in application of FSW cross-cutting funds is imperative and can be assisted by more explicit descriptions of activities.

TUPEE552
KEY POPULATIONS-LED INTERVENTIONS IN MALAWI, TANZANIA AND BOTSWANA TO REALISE MEANINGFUL AND INCLUSIVE GLOBAL FUND INVESTMENT

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Background: The AIDS and Rights Alliance for Southern Africa’s (ARASA) 2014 informal assessment on meaningful engagement of key populations (KPs) in Global Fund processes in a few SADC countries showed that KPs require capacity strengthening on linkages between human rights and HIV, as well as Global Fund processes. They required opportunities to influence strategic investment of Global Fund and other resources. Technical and financial support could facilitate the creation of platforms that would enable consistently engage on content, share materials and information as well as streamline consultations with their constituencies for feedback on an on-going basis. KPs were eager to engage more effectively with members of the Country Coordinating Mechanism (CCM) as well as be considered principal and sub-recipients of current and future grants.

Description: From March 2015 to January 2016, ARASA in collaboration with the International Treatment Preparedness Coalition (ITPC) worked with Key populations groups (namely sex workers, people who use drugs and LGBTI) in Tanzania, Botswana and Malawi to undertake interventions that were aimed at increasing Global Fund investments in interventions that would improve the health and rights of these inadequately services populations. Through focused interventions including budget monitoring training, focused trainings with their constituencies as well as with influencers such as health care workers and religious leaders, ‘days of action’ focusing on financing for health, and co-ordinated interventions geared towards attaining them seats on the CCMs, these partners were able to increase their constituencies’ visibility in their respective countries’ Global fund processes.

Lessons learned: In two countries, KPs were able to secure seats on their CCMs; in two countries - national allocations to key populations budgets were increased by the national AIDS Councils and in one country, a formalised sex work alliance was established.

Conclusions/Next steps: As a result of the success of the interventions, more funding has been secured to continue this work and to bolster sustainability of their interventions. This funding will now focus on documenting these and other experiences; to allow for better modelling of interventions for KPs in other countries.
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Background: Unplanned pregnancies are an occupational hazard for female sex workers (FSW) who infrequently access the health system due to fear of stigma and the criminalization of sexual work. Key population-friendly mobile community-based HIV testing and counseling “plus” (CBHTC+) teams operated by the PEPIAAR-funded Sauti Program provide family planning (FP) counseling and services integrated with HIV testing and counseling, and STI, TB, gender-based violence, and alcohol and drug screening in hotspots in five regions of Tanzania. This abstract describes the uptake of FP services by FSW in this program.

Description: Patient level data was collected during CBHTC+ services, entered into a central database through single data entry, cleaned and analyzed using STATA statistical software. Chi² test compared proportions and logistic regression assessed associations.

Lessons learned: Between August and December 2015, records were entered for 9,332 females reached through the Sauti program, of which 30% (n=2,712) identified as FSW (median 28 years [IQR 24-33]). More than one third (36%, n=967) of this population had had previous experience with contraception, mainly using injectables (52% n=503) followed by implants (22%, n=217) and oral contraceptives (17%, n=165). Two percent (n=22) had used an intrauterine device before, and 1% (n=13) reported tubal ligation. At the time they accessed Sauti services, only 22% (n=552) were currently using FP, with a similar distribution of methods. Following their visit to Sauti, 13% (n=357) newly initiated FP, preferring implants (17%, n=86) over injectables (15%, n=74) and pills (7%, n=34) besides male condoms (52%, n=257). Younger age and previous experience with FP was associated with FP uptake (OR 0.98, p= 0.011; OR 2.3, p=0.001 respectively).

Conclusions/Next steps: FSW, especially younger FSW, have an unmet need for contraceptive options, assess adherence to the method of their choice and to return any switches in contraceptive use. Pregnancy was assessed at each study visit. Descriptive analysis of contraceptive data was undertaken.

Results: A total of 372 women were eligible enrolled in CAPRISA 008. At enrolment, 278 (74.7%) of these women were on injectables, 75 (20.2%) were taking OC, 16 (4.3%) were sterilized, 1 (0.3%) had a contraceptive implant and 2 (0.5%) had undergone a hysterectomy. By the end of the study, the number of women on injectables and OCS had declined to (77 (47.6%) and 63 (16.9%) respectively, while the number choosing contraceptive implants or IUCDs had increased to 81 (21.8%) and 6 (1.6%) respectively, and 27 (7.3%) women were not on any form of contraception. In total, 70 (23.9%) women who were using an injectable contraceptive at enrolment switched to the contraceptive implant during study follow-up.

Conclusions: Structured contraceptive counselling to promote a wide range of contraceptive choices resulted in an expanded contraceptive method mix in a population that has predominantly favoured injectable contraceptives. If the relationship between DMFA and HIV risk is confirmed then it is reassuring to know that women are willing to switch to alternate contraceptive methods.

TUPEE556
EXPANDING THE CONTRACEPTIVE METHOD MIX FOR WOMEN AT HIGH-RISK OF HIV: EXPERIENCES FROM THE CAPRISA 008 TENOFURIEL GEL IMPLEMENTATION TRIAL

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Background: For safety reasons, women participating in microbicide trials are required to be on a non-barrier contraceptive. The predominant contraceptive choice in South Africa is an injectable hormonal contraceptive that is administered 2 or 3-monthly. Data from observational studies suggest that injectable hormonal contraceptive use, particularly depot medroxyprogesterone acetate (DNMA), may be associated with increased HIV risk. Expanding the contraceptive choices for women, especially those living in high HIV burden countries, is therefore important.

Methods: Women participating in the CAPRISA 008 Tenofuriel Gel Implementation trial were offered a range of contraceptives including injectables (DMFAs or Nor-
TUPEE558
SHADOWS AND LIGHT: ADDRESSING THE LINKED SEXUAL AND REPRODUCTIVE HEALTH (SRH) AND HIV NEEDS OF KEY POPULATIONS

D. McCartney, H. Perrry, D. Babemba, N. Jagilishi, L. Kayaro, A. Tena, A. Metzner

Abstract

This study examines missed opportunities and barriers in patient-provider communication about pregnancy for FSW living with HIV. Findings highlight the importance for integrated, non-judgemental and tailored care and communication surrounding pregnancy, addressing the multiple risk factors for this highly vulnerable population.

Planning and designing integrated services

<table>
<thead>
<tr>
<th>Planning and designing integrated services</th>
<th>Increasing involvement of key populations</th>
<th>Advocating and funding for key populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective interventions must recognize and respond to the complex and often overlapping vulnerabilities of key populations, and include broader and related health and SRH issues.</td>
<td>Promoting meaningful involvement and leadership at all stages of project increases the effectiveness of programmes as well as reducing stigma.</td>
<td>Using restricted project resources strategically to complement gaps in existing programmes demonstrates impact and advocacy can ensure approaches scaled up.</td>
</tr>
<tr>
<td>Identifying appropriate and innovative ‘entry points’ is critical to engage key populations on SRH issues.</td>
<td>Engagement with wider key population networks was limited in practice and there is scope to engage further with these networks as strategic partners.</td>
<td>Small pilot projects can demonstrate important lessons regarding the benefits of integrating key populations, from which larger programmes can develop.</td>
</tr>
<tr>
<td>When services are genuinely stigma-free, preference is to access services at regular times rather than having a designated ‘key population’ clinic.</td>
<td>Genuine leadership development of key populations takes time and requires strategic investment.</td>
<td>Flexibility on the part of donors can enable projects to respond more quickly and effectively to specific needs as they arise.</td>
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<tr>
<td>Key populations prefer being able to access services through a ‘one stop’ centre, particularly in hostile environments.</td>
<td>Continued advocacy is required at national level to increase key population representation on CCMS.</td>
<td>There is an urgent need to prioritise investment in tailored and targeted services for young key populations.</td>
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Table 1: Lessons learned and recommendations for addressing the linked SRH and HIV needs of key populations

Conclusions/Next steps: Shadows and Light has demonstrated that IPPF’s strong rights-based approach to SRH was able to build upon its existing work with vulnerable and socially excluded groups to provide integrated SRH and HIV services for key populations, offering tremendous potential to scale up this approach and the integration of services for key populations through IPPF’s established global infrastructure.

TUPEE559
UNDERESTANDING FACTORS RELATED TO PATIENT-COMMUNICATION ABOUT PREGNANCY AND HIV AMONG FEMALE SEX WORKERS LIVING WITH HIV IN SANTO DOMINGO, DOMINICAN REPUBLIC

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Abstract

TUPEE560
PROMOTING SRH SERVICES TO IMPROVE HIV PREVENTION FOR YOUNG FEMALE SEX WORKERS: EXPERIENCE FROM THE ABHAYA PROGRAMME IN INDIA

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India HIV/AIDS Alliance, New Delhi, India

Abstract

TUPEE555

d McCarten, H. Perrry, D. Babemba, N. Jagilishi, L. Kayaro, A. Tena, A. Metzner

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Background: Shadows and Light was a three-year project that was implemented by four IPPF Member Associations (MAS) between October 2012 and September 2015, funded by the German BACKUP Initiative. The project increased service providers’ ability to address the linked SRH and HIV needs of four key populations at increased risk of HIV: transgender people; sex workers; people who use drugs; and men who have sex with men. The project focused on building local capacity of key populations to engage in Global Fund processes as these mechanisms offered key opportunities to influence, deliver and sustain services to key populations.

Description: An independent review was conducted during the final month of implementation (September 2015) to document the key lessons learned. The methodology involved review of project documentation and interviews with 13 key stakeholders. The report synthesised the overarching achievements of the project across the four countries; identified the main challenges and obstacles faced; identified key lessons learned; and suggested recommendations.

Lessons learned: The project achieved significant impact in each of the four MASs in terms of capacity to deliver SRH and HIV services for key populations. Key achievements included reach to young key populations and focus on gender-related issues; involving key populations as agents of change; reducing community-level stigma and discrimination; working through established community structures; and building partnerships to strengthen referral mechanisms. Table 1 outlines the key lessons learned under three thematic areas:

1. Planning and design of integrated services for key populations;
2. Increasing key population involvement and building leadership; and
3. Advocating for and funding integrated services for key populations.

TUPEE556

Background: Young female sex workers (FSW) living with HIV are a vulnerable population for multiple health concerns, yet are understudied in the public health literature. FSW face barriers to care as well as increased risk for sexual and reproductive health complications among other health issues, therefore communication with health providers can play an important role before and during pregnancy.

Methods: Data was analyzed using bivariate and multivariable logistic regression from a cohort of 253 FSW living with HIV who were of reproductive age while living with HIV in Santo Domingo, Dominican Republic to assess factors associated with ever having communicated about pregnancy with a health provider.

Results: Almost all women had been pregnant (95.65%; mean: 4.5 pregnancies), many had been pregnant after HIV diagnosis (36%; mean: 1.6) and reported wanting more children (28%; mean: 1.6 children). Over half (58%; n=146) had reported having ever spoken to any health provider about pregnancy among women living with HIV. Of those, about 38% (85/146) had been pregnant since diagnosis and 24% (36/146) indicated wanting more children. Of participants who have been pregnant after HIV diagnosis (n=91), about 38% (35/91) never discussed pregnancy with a health provider and about 48% (43/91) indicated a desire for more children. Of the total population, about 56% (142/253) do not feel that an HIV positive woman wants to get pregnant she should, however about 75% (191/253) felt that health providers are supportive of pregnancy in women living with HIV. Multivariate logistic regression found significant associations between having spoken to a health provider about HIV in pregnancy and a more positive perception of their health provider (AOR: 1.97; 95% CI: 1.01, 2.48) and years since HIV diagnosis (AOR: 1.07; 95% CI: 1.00, 1.13). Negative associations were seen with history of drug use (AOR: 0.38; 95% CI: 0.20, 0.90) and current alcohol use (AOR: 0.52; 95% CI: 0.30, 0.92).

Conclusions: This study examines missed opportunities and barriers in patient-provider communication about pregnancy for FSW living with HIV. Findings highlight the importance for integrated, non-judgmental and tailored care and communication surrounding pregnancy, addressing the multiple risk factors for this highly vulnerable population.
still grappling with the challenges of adulthood and sexuality and managing these factors in the context of sex work. These discussions have led to increased HIV counsel-

ing, testing and linkages with care, support and treatment services.

TUPE561

BRINGING SEXY BACK: PREP AND SEXUAL HEALTH SERVICES FOR YOUNG URBAN MEN

WHO HAVE SEX WITH MEN


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Background: The CDC estimates that young men who have sex with men (Y/MSM) account for nearly 75% of all new infections among youth in the United States. Im-

proved access to culturally and clinically relevant sexual health services is critical for

stemming the tide of new infections, particularly in urban settings such as Oakland, California, where a HIV State of Emergency has existed since 1998. The Connecting Resources for Urban Sexual Health (CRUSH) Project was conceived as a comprehensive approach to HIV prevention where Y/MSM, regardless of serostatus, can access affirming and innovative sexual health services.

Description: The aim of CRUSH is to implement and evaluate the effectiveness of a package of HIV care, treatment and prevention, including routine sexual health services: STI screening and treatment, PrEP and PEP access, for Y/MSM of color. Utilizing a broad range of scientific and community partners, patients can arrive for scheduled or drop-in visits; receive regular HIV testing, be assessed and treated for STIs, access PrEP and PEP, and adherence support for PrEP and ART. To engage Y/MSM, CRUSH embodies a “clinic without walls” structure, supporting retention efforts, allowing youth to access barrier free services.

Lessons learned: Since February 2014, CRUSH enrolled a total of 262 HIV negative and 81 HIV positive participants to receive sexual health care; 238 have received PrEP. About 15.5% (n=37 of 238) of those receiving PrEP were assessed as needing PrEP at some point in the course of the study. Nearly 29% (n=99 of 343) are Y/MSM of color. Average age of all participants is 24.6. Average amount of time participants stay on PrEP is 36 weeks of a 48 week study period.

Conclusions/Next steps: Uptake of sexual health services in this setting for Y/MSM of color was higher than anticipated. Providing routine STI treatment is a critical for integrating PrEP into an existing HIV primary care setting. Ensuring flexible clinic access including drop in visits for STI testing and treatment for both HIV positive and negative youth is essential to engage Y/MSM in routine sexual health. Intensi-

fied in-reach and outreach and messaging targeting Y/MSM of color are needed for engagement into PrEP.

TUPE563

COMMUNITY-BASED HIV TESTING FOR ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH: RESULTS FROM A MOBILE CLINIC INITIATIVE

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Background: HIV testing is sub-optimal in South African adolescents, a population where HIV related deaths continue to rise despite reductions in pediatric and adult HIV related mortality. Discussions with adolescents highlight the inappropriateness of traditional medical facilities to support youth in time of an evolving epidemic and recommend accessible and youth-friendly HTC services to facilitate earlier HIV testing.

Description: The Tutu Teen Truck (TTT) launched in August 2015 as a nurse-led, counselor-supported mobile clinic providing HTC services at convenient times and in accessible spaces for adolescents in limited-resource, high disease burden communities of Cape Town. The clinic attracts adolescent clients spontaneously accessing HIV testing at taxi ranks, township shopping/community centres, sports fields or on the roadside opposite schools. Young people were involved in designing the TTT to optimally provide a youth-friendly, integrated SRH service which is culturally appropriate, respectful and confidential. During the HTC visit adolescents complete a self-reported sexual behaviour risk assessment and tailored health education sessions provided by peer-counselors.

Lessons learned: Between August and December 2015, the clinic enrolled 1285 adolescents between 12 and 24 (x = 17.5) years of age, with 37% being male and 88% black South African. 45.6% of adolescents had no prior HIV test. HIV was newly diagnosed in 2.7% of adolescents, while prevalence was 3.6%. The average CD4/µl count was 429 in newly diagnosed patients, with 67% of positive patients CD4<500/ µl. Adolescents most prominent self-reported HIV-related risks were that 63% did not know their partner’s HIV status and 52% inconsistently use condoms; while 14.6% had multiple sexual partners in the past six months and 3% were diagnosed with a STI in this same period.

Conclusions/Next steps: Mobile, community-based SRH services for adolescents are feasible, while providing an accessible debut HIV testing site for 1 in 2 young people. Although the TTT found a relatively low HIV prevalence by South African standards, the majority of those testing positive qualified for ART. In addition, ado-

leicntes accessing the clinic displayed some risky HIV-related behaviour which sug-

gests that PrEP availability could be a valuable. Next steps might be to provide both PrEP and ART for adolescents from mobile clinics.
TUPEE564  
INCREASING UPTAKE OF HIV, STI AND FAMILY PLANNING SERVICES, AND REDUCING HIV-RELATED RISK AMONG YOUNG PEOPLE LIVING WITH HIV (YPLHIV) IN UGANDA: EVIDENCE OF THE LINK UP PROJECT

Background: In Uganda, young age 15-24 comprise nearly 40% of people living with HIV (PLHIV), and new HIV infections continue to rise in this group. As they transition into adulthood, YPLHIV confront unique challenges: stigma surrounding their developing sexuality, and HIV care paradigms which focus on the needs of only children or adults. To address barriers to care, the Link Up project implemented a peer-led intervention through YPLHIV support groups, offering a range of services, including counseling on HIV and sexual and reproductive health (SRH) issues, integrated HIV and SRH education, and referrals to ART and youth-oriented SRH facilities.

Methods: At baseline (Oct, 2014), we recruited 473 YPLHIV aged 15-24 years who were members of Link Up peer support groups in Luweero and Nakasongola districts to participate in a cohort study. After a 9-month intervention period (January-September, 2015), we successfully re-interviewed 350 participants. Key outcomes included self-efficacy for condom and contraceptive use (10-item index; dichotomized high/low), comprehensive HIV knowledge (five-item UNAIDS scale), condom use (last sex), HIV-status disclosure, ART uptake and adherence, STI uptake, and contraceptive prevalence. Multivariate logistic regression analysis applied to longitudinal data was used to assess changes in key outcomes from baseline to endline, controlling for gender, age, education, marital status, and number of children.

Results: At baseline, nearly 70% of participants were female; 21% married/cohabitating; 77% ever had sex; 23% disclosed HIV status to a sex partner; and 68% were using ART. At endline, 94% attended Link Up peer support groups; 86% contacted by peer-educators; and 48% received referrals.

Multivariate analyses showed significant increases at endline, compared to baseline, in: self-efficacy [AOR:1.8(3.2-6)]; comprehensive HIV knowledge [AOR:1.8(3.2-6)]; HIV disclosure [AOR:1.6(1.01-2.6)]; condom use at last sex [AOR:1.7(1.2-2.5)]; STI uptake [AOR:2.1(1.5-2.9)]; ART uptake [AOR:2.1(1.6-4.0)]; ART adherence [AOR:2.5(1.3-4.9)]; CD4 testing [AOR:2.4(1.5-3.6)]; and use of modern contraceptives: [AOR:1.7(1.2-2.7)].

Conclusions: Link Up’s peer led intervention through peer-support groups and referrals can be effective in increasing self-efficacy and knowledge of HIV, condom use, HIV disclosure, uptake of ART, ART adherence, CD4 testing, STI uptake, and use of modern contraceptives. This model should be shared and adapted to other contexts.

TUPEE565  
PHYSICAL HEALTH AND SEXUAL REPRODUCTIVE HEALTH STATUS OF YOUNG PEOPLE IN THE BORSTAL TRAINING INSTITUTION, ILORIN, KWARA STATE, NIGERIA

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Background: Young people (10-24 years) comprise about a third of Nigeria’s population. Some of the young people initiate objectionable deviant behaviours and are subsequently remanded in Borstal Training Institutions (BTI) for rehabilitation after trial and prosecution. However, studies conducted in Nigeria among delinquent young people in BTI have not adequately explored their sexual reproductive health status. This research was therefore conducted to assess the sexual reproductive health and determine the physical health status of delinquent young people being rehabilitated in the BTI, Ilorin.

Methods: A cross-sectional survey of the 133 inmates remanded in the BTI was conducted. The institution caters for only male offenders who are sentenced by the court of law for an initial period of three years. A semi-structured questionnaire was used to collect data. Demographic characteristics and history of common health symptoms experienced three months preceding the study. Also, Knowledge, Attitude and Practice regarding HIV were evaluated.

Results: Data were analysed using descriptive statistics, Chi-square and Spearman rank correlation at p = 0.05. The mean age of inmates was 18.9±2.2 years. Various offences included abuse of psychoactive substances (65.5%), armed robbery (39.8%), “being beyond parental control” (6.0%) and recurrent involvement in street fights (0.8%) led to be remanded. The mean duration of stay in the institution was 1.3±0.8 years. About 57.9% reported that they had at least one symptom such as cough (46.8%), fever (42.9%), headache (40.3%), body pain (40.3%), and chest pain (23.4%). Eighty-nine of the inmates were aware that HIV can be transmitted by sexual intercourse (66.9%).

Half of them knew HIV can be transmitted from mother to child (52.6%) and through sharing needles or syringes (51.1%). About 60.3% of the inmates had misconception about transmission of HIV. Fifty (37.5%) of the inmates had a history of sexual intercourse, and 60% of these inmates had used a condom. However, only 44.0% said they used condoms consistently.

Conclusions: It was observed that Inmates of the Borstal Training Institution experienced poor physical health and had misconception about the route of transmission of HIV. There is need for Intervention to improve Inmates KAP on HIV.
Model of Behavior Change was used as the theoretical basis for development of healthpromotion.org (HMP), a mobile-phone-optimized, internet-based inter-vention designed to reduce unprotected anal intercourse (UAI) among YBMSM. The model theorizes that behavioral intentions mediate the relationship between self-efficacy, perceived norms and attitudes and health behavior. This study used baseline data from 474 HMP randomized controlled trial (RCT) participants to test this model.

Methods: Bivariate analyses examined relationships between UAI in the last 3 months and safer sex intentions (intentions to discuss condom use, use condoms, ask sexual partners about HIV status, use alcohol/drugs before sex), self-efficacy to refuse sexual acts, condom use norms and attitudes toward condom use. Mediation analyses were conducted using the SAS PROCESS computational macro to determine if safer sex intentions mediated the relationship between self-efficacy, perceived norms, attitudes and UAI.

Results: The mean age was 24.3 years; 39.5% were HIV-positive. Overall 66.1% re-port ed one or more acts of UAI with a male partner in last 3 months. Those who-reported UAI had lower safer sex intentions (<-0.01), lower self-efficacy to refuse sexual acts (<-0.14), lower perceived condom use norms (<-0.01) and poorer at-titudes towards condom use (<-0.01). In mediation analyses, the relationships between UAI and self-efficacy to refuse sexual acts (estimated indirect effect=-0.02, pc.001) and perceived condom use norms (-0.04, pc.001) were fully mediated by safer sex intentions while attitudes toward condom use (-0.02, pc.001) was partially mediated by safer sex intentions when controlling for age, education, income and HIV status.

Conclusions: The findings from this study supported behavioral intentions as a me-diator between self-efficacy, norms, and attitudes and health behavior (e.g., UAI) outlined in the IOM Integrated Model of Behavior Change. These factors are im-portant direct and indirect predictors of UAI among YBMSM. Theoretically-based interventions are critically needed to address these predictors in order to reduce UAI among YBMSM.

TUPEE569

LEARNERS’ PERSPECTIVES ON THE PROVISION OF CONDOMS IN SOUTH AFRICAN PUBLIC SCHOOLS

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Background: Despite the introduction of sexuality education in South African (SA) schools 16 years ago, progress has been slow in reducing sexual risk behaviour. In 2015, the Department of Basic Education proposed the provision of condoms and sexual and reproductive health (SRH) services to learners in schools. As the sexuality of adolescents is contested much public debate has ensued, which is seldom in-formed by adolescents as the beneficiaries of the policy. This study explored learn-ers’ perspectives on the provision of SRH-services in SA schools.

Methods: Sixteen focus group discussions were conducted with 116 learners (52% female) from 33 public schools across the nine provinces. School selection was based on participation in UNICEF’s youth development programmes. The discus-sions focused on learners’ attitudes, social influences and how SRH-services should be provided in schools. Discussions were thematically analysed.

Results: Learners reported negative attitudes towards sexuality education because of an uncomfortable interaction with teachers and peers, and a lack of comprehen-sive information. While some learners had a positive attitude towards the provision of condoms in schools, due to amongst others judgemental attitudes of nurses at clinics, many were concerned that it would increase sexual activity. However, as the discussion ensued on the poor quality of services in clinics and high risk behaviour amongst adolescents, some learners shifted their position. Attitudes towards the provision of other SRH-services in school were positive as learners emphasized that current clinics are not youth friendly. Learners’ perspectives on providing SRH-ser-vices in schools were strongly determined by the opinions of classmates and teach-ers. Hence, the most immediate concerns for implementation revolved around en-suring privacy and confidentiality.

Conclusions: Learners did not fully support the provision of condoms in schools due to myths about increased sexual activity and fear of stigma and discrimination. The provision of condoms in schools must be preceded by an evidence-informed advo-cacy campaign that debunks commonly held myths. Critical thinking skills must also be developed to inculcate evidence-informed decision-making on contested issues such as condom provision. Provision must be sensitive to the privacy and confidence-ability of learners in light of the persistent stigma and discrimination they experience.

TUPEE569

YOUNG WOMEN’S EXPERIENCE OF RECEIVING CONDITIONAL CASH TRANSFERS FOR HIV PREVENTION: QUALITATIVE DATA FROM HPTN 068

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Background: There is increasing interest in studying the use of cash transfers with adolescent women in sub-Saharan Africa. Cash transfers are hypothesized to pre-vent HIV infection by increasing school attendance or reducing young women’s reli-ance on transactional sex. In this study we examined young women’s school attend-ance and unintended changes to social relationships when receiving a conditional cash transfer (CCT).

Methods: HPTN 068 was a 3-year randomized controlled trial to assess the impact of a cash transfer, conditioned on school attendance, on young rural South African women’s HIV incidence (HIV). 2 232 young 13-20 year old women were recruited and completed annual survey assessments. A sub-sample of 73 women (38 from intervention arm) was recruited into a longitudinal qualitative cohort, in which they were interviewed up to twice annually by female, local language-speaking fieldworkers. Interviews were recorded, translated and transcribed for coding and analysis in Atlas.ti.

Results: Qualitative interviews with a sub-sample of intervention-arm participants found that receiving the CCT was a largely positive experience. Moreover, the CCT did not negatively impact on relationships in communities, neighbourhoods and schools; which remained essentially unchanged throughout the study. Minor reports of jealousy and teasing within peer groups were reported but they had limited impact on participants. Within families, young women highlighted their in-creased independence, better relationships with mothers and sharing of resources with siblings. Impact of the CCT on sexual relationships was little and it was rarely mentioned. Quantitatively, we found no significant impact of the CCT on school at-tendance, however, qualitative interviews show that participants reported positive change in their attitude towards schooling across both study arms.

Conclusions: Receiving a CCT was a positive experience for young women and their social relationships were either unaffected or positively changed. Confirming find-ings from the quantitative trial results, there was no identified impact of the cash on schooling. Notably, fears of negative unintended consequences to cash payments appear unfounded.

TUPEE569

PARTNERING TO IMPROVE EMERGENCY AND CRITICAL CARE SERVICES FOR PEDIATRIC HIV PATIENTS IN ETHIOPIA


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Background: At the request of the Federal Ministry of Health, the American Interna-tional Health Alliance launched a partnership between the University of Wisconsin in the United States and Addis Ababa University to strengthen pediatric emergency care in 2010. With support from the President’s Emergency Plan for AIDS Relief and CDC/Ethiopia, partners established a fellowship in pediatric emergency and critical care medicine and implemented several quality improvement projects to increase the number of children tested for HIV, ensure early administration of post-exposure prophylaxis, and enhance linkages between the pediatric emergency department and the facility’s HIV clinic.

Description: Since January 2014, more than 400 pediatric patients have been screened for HIV in the Emergency Department. Approximately 10% tested HIV-positive and were referred to the HIV clinic. In the pediatric intensive care unit, 106 (15%) admissions were screened for HIV; 13 (8%) tested HIV-positive. These rates are significantly higher than the HIV prevalence nationwide (1.2%) and in Ad-dis Ababa (5.2%).
Lessons learned: Children may not come into regular contact with the healthcare system and may not utilize services unless they are injured or severely ill. Emergency and critical care providers are therefore uniquely positioned to identify and diagnose new pediatric HIV cases during emergency situations and refer positive cases for immediate care and treatment. Emergency settings should be seen as important catchment areas for children living with HIV, who may otherwise remain undiagnosed and untreated.

Conclusions/Next steps: HIV testing and referral services are a critical component of pediatric emergency and critical care. Additional data collection is needed to quantify the impact of providing specialized emergency care for pediatric patients in high HIV burden areas.

TUPE571
ADDRESSING INTERGENERATIONAL COMMUNICATION IS KEY TO DEVELOPING AN “adolescent-friendly” FAMILY-BASED HIV TESTING INTERVENTION

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Background: Adolescents occupy a unique position in the family as they make a transition from childhood to adulthood. During this phase, adolescents may engage in risky behaviour that their families are unaware of. As a result, adolescents may be reluctant to participate in family-based interventions that could expose their private lives. A key consideration in developing an "adolescent friendly" family-based intervention is to support intergenerational communication to encourage adolescent-parent sharing while simultaneously supporting the adolescent’s need to develop their own identity and gain a sense of autonomy.

Methods: In 2014, 72 adolescents in KwaZulu-Natal, South Africa, participated in the formative phase of a research study to develop a family-based model of home-based HIV counselling and testing (FBCT). Participants were identified through social networks, schools and community groups. Qualitative data was collected using mixed-gender focus group discussions. Participants were stratified according to age (13-14/15-16/17-18 years) and HIV serostatus (HIV positive/HIV negative/HIV serostatus unknown). The data was analysed using a thematic analysis to assess differences across age groups and to identify factors that would facilitate or hinder adolescent participation in an FBCT intervention.

Results: Adolescents across age groups reported openness to communication with parents, but communication waned as adolescents grew up. Younger adolescents reported fear of parental disownment as a key barrier. Whereas, middle adolescents cited difficulty in initiating conversations with parents. In contrast, older adolescents appeared to be able to initiate conversations using tools such as humour but found straightforward communication with parents difficult. Across age groups, parents making time to speak with adolescents was an important communication facilitator. Younger adolescents preferred parent-initiated communication. While older adolescents reported that certainty of parental care and support motivated adolescent sharing, adolescents across age groups felt more comfortable communicating with a female caregiver as opposed to a male caregiver. However, younger adolescents expressed a desire for fathers to be more involved and available for communication.

Conclusions: In order to develop an FBCT intervention that is “adolescent-friendly” it is important to equip both adolescents and their primary caregivers with tools that help to initiate, sustain and encourage open communication that is supportive and caring.

TUPE572
PREPARING FOR DREAMS: DEVELOPING AN INDEX TO ASSESS VULNERABILITY FOR HIV ACQUISITION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN TANZANIA

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Background: Adolescent girls and young women (AGYW) are known to have significant risks for HIV acquisition. Characterizing specific HIV acquisition risks is important to guide the implementation of specific HIV prevention and treatment services for these young women. The Sauti program in Tanzania is implementing DREAMS in Tanzania and developed a risk index to effectively delineate a pathway of risks from primarily social vulnerabilities to acute HIV acquisition risks.

Description: A scoping review informed the development of the Sauti AGYW Risk Index (ARI) which includes Community and Individual Modules. The Community Module aims to identify communities which have high, medium and low proportions of risk for AGYW. The Individual Module is a screening questionnaire that explores key risk-related domains: sexual behavior, gender-based violence, impoverishment, social isolation, and schooling with indicators chosen based on established association with prevalent and incident HIV infections. The Individual Module was administered by peer educators and community health promoters at mobile HTC services and community outreach to 237 AGYW aged 15-24 across five regions in November 2105.

Lessons learned: Among 237 participants, the ARI scored risk as: 6% low, 37% medium, 54% high and 4% very high. Given the significant levels of acute HIV acquisition risks observed among these young women, the ARI validated the Sauti programmatic approaches of engaging AGYW in high transit and commercial areas of Tanzania. Statistical assessments of risk stratification conducted on indicators of the ARI demonstrated strong relationships between composite score for most measures except for perceptions of gender-based violence.

Conclusions/Next steps: The initial assessment of the ARI reinforces the ability to categorize AGYW into those who are acutely in need of HIV prevention programs compared to those who are earlier in the pathway of risks and represent candidates for social protection. The ARI will be scaled up for use throughout the Tanzania DREAMS initiative and linked to programmatic health data allowing eventual evaluation of these programs through self-reported and biologic data including HIV and STI test results.

TUPE573
ASSESSING THE UTILITY OF THE SAUTI ADOLESCENT GIRL AND YOUNG WOMEN RISK INDEX TO DISCRIMINATE HIV ACQUISITION RISKS IN TANZANIA

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Background: Adolescent girls and young women (AGYW) are known to have significant risks for HIV acquisition. Characterizing specific HIV acquisition risks is important to guide the implementation of specific HIV prevention and treatment services for these young women. Traditionally, indices of risk for AGYW have focused on social vulnerabilities, but to inform the implementation of the PEPFAR-funded Sauti Program in Tanzania, an index has been developed to categorize AGYW into low, medium, high and very high risk of HIV acquisition.

Methods: A scoping review informed the development of the Sauti AGYW Risk Index (ARI) which includes short modules with indicators examining sexual practices, gender-based violence, impoverishment, social isolation, and schooling. The ARI was piloted in Sauti Program sites in November 2015 with 237 AGYW. Analyses used STATA 14.0 and included pearson’s chi-square test to compare observed proportion by age group with p-values reported.

Results: 55.3% (n=131/237) of the AGYW sampled were between 15-19 and 44.7% (n=106/237) were 20-24. Younger respondents had a significantly lower age at sex debut (p<0.01), and used condoms less frequently with anal and vaginal sex (p<0.01, p<0.01 respectively). Overall, younger respondents reported fewer pregnancies, though the age of first pregnancy was significantly lower (p<0.01) than in the older age group. Older women were more likely to use FP methods (p<0.01), be married (p<0.01), less socially isolated (p<0.05) and more educated (p<0.01). There was a statistically significant relationship between individual indicators and ultimate risk score except for indicators related to perceptions of violence. Overall, 63% of 15-19 and 49% in 20-24 were considered high/very high risk (p<0.05).

Conclusions: For the initial assessment, it appeared that younger women (15-19) sampled were at higher risk than those 20-24, though overall, there is a tremendous amount of HIV acquisition risk measured among all of these women. The ARI did effectively discriminate risk between those who were at high/very high risk of HIV acquisition compared to those at low/medium risk. Further research is needed to explore the utility of this tool in identifying those most at risk and evaluating the utility of interventions in changing these risks throughout implementation of Sauti.
TUPE574
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Background: The DR has among the most successful pediatric ART scale-ups in low- and middle-income countries; almost 80% of known HIV-infected youth receive ART. But little is known of the outcomes of these pediatric ART patients post-transition to adult care.

Methods: In 2016, we analyzed de-identified data abstracted from medical records of children who started ART in 2004-2015 at the two leading DR centers providing ART to children to describe pre- and post-transition mortality and response to ART; and characteristics at transition associated with post-transition death and loss to follow-up.

Results: From 2004-2015, 876 children (>95% PHIV), started ART in these two centers; 92 (10.5%) died pre-transition. To date, 81 (9.2%) have transitioned to adult care. Age at transition ranged from 13-26 (median=18) years. In 2016, post-transitioned patients’ ages ranged from 15-29 (median=21) years. Post-transition, 8 (9.9%) were lost to follow-up; 5 (6.2%) died. Time since transition ranged from 0-9 (median=2) years, and tended to be longer in the 13 who had died or been lost to follow-up (median=3 years) than in those still receiving ART in adult care (median=2 years; P=0.02). Most recent viral loads of patients in adult care ranged from <40-165,479 (median=1,759) copies/mL; 60% had viral loads >1,000 copies/mL. Risk of death or loss to follow-up did not vary significantly by ART regimen, or median CD4 count or viral load at transition, although those who died tended to be more likely to have been receiving protease inhibitor-containing “second line” regimens (80%) and had higher viral loads at transition (median=12,523 copies/mL) than those who survived (46.1%; Odds Ratio=4.7, P=14; median=575 copies/mL; P=25; respective- ly). All patients who died post-transition had caregivers who were their mothers or grandparents (5/5 [100%] vs. 34/69 (49.3%) of survivors (P=0.06)).

Conclusions: Post-transition death and loss to follow-up were considerable, with increased risk with more time post-transition. Viral response to ART was sub-optimal in survivors in care. It is unclear why youth whose caregivers were their mothers or grandmothers had greater mortality risk; in other DR studies, those caregivers tended to be poorer and more food insecure and deprived. Measures to improve post-transition outcomes are needed.

LESSONS LEARNED: The programme proved that empowering youth reduces the HIV risk for them and their communities. 75% of girls engaged in sex work and are now engaged in various economic activities, resulting in increased average incomes ($57 at baseline to $111) resulting in increased savings (35%-77%), increased spending on education ($24 - $56) and health care ($48-$56). Moreover, project beneficiaries increased use of risk reduction strategies (33-72%) including use of condoms (85%), reduced number of partners (26%) and reduced alcohol intake (15%).

Conclusions/Next steps: Economic empowerment provides youth with necessary skills and opportunities and reduces their HIV vulnerabilities. The economic em- powerment model can be replicated in other areas of Malawi sub-Saharan Africa where economic inequalities are one of the key drivers of the epidemic, and where youths are most at risk.

TUPE576
COMBINED INTERVENTIONS TO INCREASE HIV DIAGNOSIS AND LINKAGE TO HIV TREATMENT AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN CURITIBA, BRAZIL
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Background: A multi-disciplinary team launched a community-wide intervention to reduce HIV transmission among men who have sex with men (MSM), the group most affected by HIV, in Curitiba, Brazil. The implementation science project, A Hora e Agra (AHA), evaluates the acceptability, uptake and cost-effectiveness of multiple HIV testing services (HTS) combined with linkage to services to improve HIV cascade outcomes for MSM.

Description: The project aims to increase the proportion of MSM who have accessed HTS and to link 90% of HIV positives to treatment. To expand HTS options for MSM, it’s offered a web-based HIV self-testing platform; and rapid HTS in mobile vans, community organization, and public health facilities. Individuals with reactive tests are referred for confirmatory testing. Peer navigators facilitate enrolment in treatment. Tailored communication strategies boost program uptake through virtual and mobile media, coupled with peer workers’ face-to-face interactions at MSM social gathering venues.

Lessons learned: Communication strategies became the core of the intervention. Innovative, tailored and interchangeable messaging is key to high uptake of HTS and linkage. Communications also prioritize user-friendly technological tools, to better engage young MSM. Client cost-sharing and other strategies to reduce operating expenses ($16/rapid self-test; $5/test delivery) will be required for intervention scale-up and adoption by local governments.

Conclusions/Next steps: The AHA combined approach has substantially expanded MSM access to HTS in less than one year of implementation (February-December 2015) the number of MSM users accessing HTS (~42% first time HIV testers; 70% 18-29 years): a) Mobile and Fixed HTS Outlets: 954/2,726 (35%) are MSM, 86% HIV+, MS+M and 67% HIV+ accepted linkage-to-care navigators; b) Web-Based HTS testing: >3,000 test kits delivered to users, with >2,000 kits requested by self-re- reported MSM, >400 MSM self-reported test results returned to AHA web platform and 19/400 results HIV+, >90% of HIV+ accepted linkage services. The target of testing 1,750 MSM who have never accessed HTS is likely to be exceeded. In year 2, improved follow-up of MSM testing via the web platform, analysis of the communica- tions strategy as well as cost-effectiveness, feasibility and service quality evaluations will inform program improvements for Curitiba and will facilitate expansion to additional Brazilian cities.

TUPE577
GENDER NORMS, SEXUALITY AND SPORTS FOR DEVELOPMENT: CHALLENGES ADOLESCENT GIRLS IN KHAILETHISA, SOUTH AFRICA, FACE WHEN PARTICIPATING IN A SOCCER-BASED HIV PREVENTION PROGRAMME
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Background: Gender norms and community beliefs around sexuality influence girls’ participation in soccer, considered a “male sport” in the community of interest for this research. The objective of our study is to explore access and participation to, as well as ways to improve a sports-based HIV prevention programme for teenage girls.
Method: Preliminary findings of the qualitative study are based on data collected November 28th – December 11th 2015, in Khyatitsha. We conducted interviews with teachers from four of the five implementing schools and two focus-groups with a total of 14 participants. Additional data comes from field notes and observations. Participants in the focus-groups were girls aged 10-14. We will conduct additional focus-groups and interviews with coaches, parents and peer-learners and collect secondary data on participants’ school results.

Results: Preliminary results reveal relevant information related to the challenges teenage girls who enroll in the soccer-based HIV prevention programme face. Initially, teachers indicated that girls who want to play soccer face no barriers in doing so. Prompted, they would indicate lack of resources, sporting facilities and lack of opportunities for girls among the main barriers. Although they support the programmes, they also indicated their concerns that participants might turn into “tomboys” (lesbians), since girls playing soccer are expected to behave like boys. Most teachers seemed not to be aware that this belief in itself might constitute an important barrier for girls.

Participants indicated feelings of shame for not playing well, beliefs that they would turn into “tomboys” and beliefs that girls cannot play soccer as reasons for which other girls dropped out or reasons for them to feel demotivated. Results indicate imposed and auto-imposed gender stereotypes. Among ways to improve the program, teachers mentioned involving parents and other teachers, addressing the issue of participants’ sexual identity, and organizing soccer leagues for girls.

Conclusions: Although the target group are adolescent girls, other community members (parents, teachers and peer-learners) need to be addressed in soccer-based HIV prevention programmes so that traditional gender norms, gender stereotypes and community values which maintain a disadvantage for a population which is already at a higher risk, are challenged.

TUPEE578
FEASIBILITY AND EFFECTIVENESS OF A POSITIVE PARENTING INTERVENTION IN REDUCING HIV INCIDENCE AMONG ADOLESCENT GIRLS AND YOUNG WOMAN FROM GRANDPARENT-HEADED HOUSEHOLDS

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Background: To ensure children, particularly adolescent girls from highly vulnerable families, are empowered with knowledge to stay HIV negative and have better life outcomes, the Bantwana Initiative of World Education piloted the Families Matter! Parenting program, adapted from the Center for Disease Control’s Parents Matter! program. In order to close the generation gap and open up communication between children and caregivers, the program targets grandparent-headed households receiving government cash transfers in Bulawayo, Zimbabwe and empowers these caregivers to be the primary source of sex information to the children in their care. The caregivers participate in a positive parenting module on adolescent sexual reproductive health, which covers the sexual pressure and choices faced by adolescents, and provides caregivers with appropriate HIV prevention, family planning and sexual abuse prevention and responses. The program was piloted to assess the intervention’s feasibility and effectiveness.

Description: 42 elderly caregivers, aged 50 and older, met once weekly for a three-hour long session for seven weeks. Subsequently, they completed practical discussion exercises with their children at home. Routine data collection and interviews for qualitative feedback were conducted.

Lessons learned: Evidence from the pilot shows caregivers’ knowledge on sex and sexuality issues increased. The weekly exercises that caregivers practiced at home made them more comfortable to openly discuss sex related issues with their children. As a result, both children and their caregivers indicated that the generation gap had reduced and their relationships grew stronger. Children noted that the caregivers were now their primary source of sexuality information and they felt empowered to change their behavior and make better sex choices.

Conclusions/Next steps: Families Matter is an effective family centered approach which increases caregivers’ and adolescents’ knowledge of sex, sexuality and HIV issues. The approach opens up communication and deepens mutual understanding between children and their caregivers. Children are better supported and they enjoy protective parental surveillance. The pilot proved successful, strengthening relationships and understanding of HIV prevention, family planning and sexual abuse prevention, detection and appropriate responses. WEI/Bantwana will scale up the pilot to 9,300 caregivers in three districts over two years and track its effectiveness in reducing HIV incidence.

IMPACT OF DONOR AGENCIES AND POLICIES ON NATIONAL RESPONSES

TUPEE579
CASE STUDIES ON INTEGRATION OF HIV AND AIDS RESPONSE (FOCUSING ON NEEDLE AND SYRINGE EXCHANGE PROGRAMS) WITHIN THE JAKARTA HEALTH SYSTEMS

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Background: The HIV and AIDS response in Indonesia is connected to global health initiatives (GHIs) through various programs and funding schemes. The role of GHIs in developing countries, including Indonesia, has resulted in both positive and negative consequences. Despite the fact that GHIs can increase the response to HIV and AIDS transmission reduction strategies, they operate alongside, yet separately, from the Indonesian health care system. This dual system could, in fact, be detrimental to the overall operation of the health system, as each has different mechanisms of service delivery, planning, financing, and monitoring-evaluation. This study aims to provide better information surrounding the current scope of HIV and AIDS responses and the ways in which they have been integrated into health care system, specifically in Jakarta.

Methods: A qualitative study conducted in Jakarta. Data was collected by interviewing 42 respondents, including stakeholders that implement HIV and AIDS programs and also key population. The framework approach will be used in this analysis.

Results: There are several aspects that have been fully integrated with the Indonesian health system, such as budgeting, proportion, distribution, and expense, financing of human resources, Availability of services, Coordination & referral. We found that partial integration with the health system had occurred for the realms of Regulation, Policy formulation, Management of financing sources, Financing mechanisms, Compensation, Provision & storage regulations, Resources, Synchronization of information system, Dissemination & utilization, and Quality of services guarantees.

In the realms of Accountability, Policy and Human Resources Management, and Community Participation we did not find evidence for any integration within the health system.

Conclusions: Less involvement of key populations in planning, developing, and evaluating HIV and NSP programs acted as an indicator for a lack of integration of Community Participation and Accountability in the health system. There were no specific regulations about human resources in NSP; therefore no formal competencies were used for recruitment. The government needs to continuously develop several aspects of GHIs that are yet to become fully integrated with the health system, to ensure the continuity of HIV and AIDS response, pressing so as there are no current donors supporting these programs.

TUPEE580
EFFECT OF PEPFAR FUNDING POLICY CHANGE ON HIV SERVICE DELIVERY IN A LARGE HIV CARE AND TREATMENT NETWORK IN NIGERIA

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Background: PEPFAR has streamlined support for HIV services in Nigeria and other recipient countries. The objective of this study was to measure and describe the impact of the PEPFAR policy change (PPC) instituted in October 2014 on HIV care delivery in APIN, a large network of HIV clinics in Nigeria.

Methods: We distributed questionnaires to clinic managers at APIN’s 30 comprehensive HIV treatment sites. The survey assessed services supported pre-PPC (October 2013-September 2014) and post-PPC (October 2014-September 2015), impact of the PPC on service delivery areas, and responses instituted for the PPC. We compared differences in support for staffing, laboratory services, and clinical operations pre and post-PPC using proportion tests. Responses to open-ended questions in the questionnaire were analyzed qualitatively using ATLAS.ti version 7 and data categorization was done inductively.

Results: Eighty-three percent (n=25) of sites completed the survey. The majority were public (60%, n=15) and secondary (68%, n=17) facilities. Clinics had a median of 989 patients in care (IQR: 543-3326). All clinics continued to receive support for 1st line antiretrovirals and CD4 testing after the PPC, while no clinics received support for other routine drug monitoring labs. We found statistically significant reductions in support before and after the policy change in viral load testing capacity, 

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government of South Africa and UNAIDS undertook an Investment Case to jointly assess past spending and determine the most impactful future allocations across ten interventions.

**Description:** As part of the Investment Case, we conducted an analysis of HIV and TB spending in South Africa by the government, PEPFAR, and the Global Fund. This analysis built on earlier exercises to map and analyze PEPFAR financing. We undertook the analysis using publicly available financial data to ensure replicability and compatibility going forward. Findings were compared against the Investment Case’s proposed optimal mix of cost-effective interventions.

**Lessons learned:** The tracking provides an innovative approach to consolidating data from domestic and international funders into a database compatible with public finance data, potentially enabling routinizable and real-time analysis for use by the government and partners. Total HIV and TB spending in South Africa steadily increased from R17.4 billion in 2011/12 to R22.1 billion in 2013/14. The government accounted for the largest share (80%), followed by PEPFAR (17%) and the Global Fund (3%). The government’s expenditures steadily increased even as the South African economy declined and other public expenditures dropped. PEPFAR’s contribution decreased over time, while the Global Fund contribution increased.

A comparison of expenditures against the Investment Case’s proposed optimal mix found that South Africa’s HIV response was allocatively efficient. Only 14% of expenditures were for interventions not found to be cost-effective in the evidence review, but these could be considered important programme or social enablers.

**Conclusions/Next steps:** This exercise represents a first attempt at routinizing joint expenditure analysis for HIV and TB in South Africa. It provides a model that can be used going forward in South Africa and tailored for use in other countries. The findings of the Investment Case were used to improve the efficiency of allocations in the government’s 2015/16 budget. We are now working to institutionalize this approach within the government’s systems in conjunction with the System of Health Accounts, to enable improved evidence-based joint planning.

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**SUSTAINABILITY OF FINANCING AND PROGRAMMES OF NATIONAL AIDS PROGRAMMES AND RESPONSES**

**TUPEE581 UNDERSTANDING PROSPECTS FOR MOBILIZING DOMESTIC RESOURCES FOR HIV IN UGANDA**

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**Background:** With more than 1.7 million PLHIV in Uganda, the country’s HIV epidemic remains one of the largest in sub-Saharan Africa. As with other countries, Uganda’s health sector relies heavily on donor funding. According to the most recent NHA, in FY 2011/12, donor resources accounted for 46 percent (US$860 million) of total health expenditure. For Uganda to achieve 90-90-90 targets by 2020, it will need to mobilize sustainable domestic resources to ensure the country stays on track.

**Methods:** The USAID- and PEPFAR-funded Health Policy Project used a set of indicators to assess the potential for domestic resource mobilization in Uganda. The team assessed the gap in projected HIV funding and the contribution from various sources: government HIV budget allocation, private sector, and donor funds.

**Results:** High levels of donor funding have been the primary support for significant scale-up of HIV services in Uganda over the past decade. PEPFAR funding increased rapidly from US$96 million to US$284 million between 2004 and 2008. While Uganda’s domestic contribution increased between FY 2011/12 and 2014/15 (US$66 million to US$107 million), an annual inflation rate of around 7.9 percent wiped out those gains, and domestic contribution actually decreased in real terms. The private sector contributed approximately US$3.8 million to HIV services. Household expenditure on HIV, in the form of out-of-pocket payments to providers, was valued at US$49.7 million. HPP estimates the total resources needed to achieve 90-90-90 targets will amount to around US$3.9 billion and the funding gap will be around US$1.09 billion over five years (2016-2020).

**Conclusions:** For Uganda to achieve its ambitious scale-up targets for ART coverage, significant mobilization of domestic, public-sector resources is essential. In the short term, realistic targets should be set for scale-up to establish quantifiable and achievable targets for the mobilization of domestic resources. Given the expected growth in the patient pool, increasing budgetary space through improved tax collection and creating secured streams of funding through innovative financing mechanisms will be critical to achieving Uganda’s targets.

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**TUPEE582 ARE HIV-AFFECTED POPULATIONS WILLING AND ABLE TO PAY FOR HIV PREVENTION GOODS AND SERVICES? RESULTS FROM A CROSS-SECTIONAL STUDY IN VIETNAM**

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**Background:** Middle-income countries such as Vietnam are facing steep declines in donor assistance for HIV prevention interventions. This raises concerns regarding key population (KP) access to condoms, needles and syringes (N&S), and HIV testing and counseling (HTC) services. USAID/PATH Healthy Markets conducted a consumer survey to measure KP willingness to pay (WTP) for commercial condoms, low dead space syringes (LDSS) and HTC services.

**Methods:** A cross-sectional survey recruited a total of 1,296 people who inject drugs (PWID), 1,248 female sex workers (FSW), and 1,528 men who have sex with men (MSM), although low among PWID (13.9%) and FSW (19.9%). In multiple regression analysis for LDSS at a maximum price of 150,000 VND ($7.5) was still relatively high at 44.8% among MSM. A significant percentage of MSM were WTP the maximum price of 20,000 VND ($1.2) regardless of subsidy access. There is an opportunity to implement the Total Market Approach (TMA) in Vietnam by targeting subsidized commodities and services to the poorest KP, and establish a viable commercial market for those able and willing to pay. This will ensure equitable and sustainable access, while reducing the public sector financial burden.

**Results:** Among PWID, 1,248 female sex workers (FSW), and 1,528 men who have sex with men (MSM), although low among PWID (13.9%) and FSW (19.9%). In multiple regression models, WTP rates were higher among high income KP, but lower among those in interacting with peer educators (potentially due to subsidy access).

**Conclusions:** There is an opportunity to implement the Total Market Approach (TMA) in Vietnam by targeting subsidized commodities and services to the poorest KP, and establishing a viable commercial market for those able and willing to pay. This will ensure equitable and sustainable access, while reducing the public sector financial burden.
Sustain HIV/AIDS Services in the Face of Falling Government Revenue: The Zamfara State Experience

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Background: Nigeria is the biggest economy in Africa but up to 77% of the country’s funding for its HIV and AIDS response is provided by international development partners, including the USG PEPFAR. In recent times, PEPFAR Nigeria has been engaged in activities that focus more on increasing country ownership through the gradual transitioning of certain HIV/AIDS services to the host Government. However, recent economic challenges threaten the ability of the country and states to allocate adequate resources for the effective takeover of HIV/AIDS services at the health facility level - a situation exacerbated by the shrinking fiscal space for health resulting from falling Government revenue caused by dwindling oil prices.

Objectives: To complement Government spending on HIV/AIDS, the USAID funded Management Sciences for Health Pro-ACT project supported Zamfara State to develop resource mobilization implementation plans in two pilot health facilities to increase funding for HIV/AIDS.

Methods: This plan which responds to and is aligned with the State Strategic Health Development Plan was developed on-site over a five day period and represents the aspiration of the facility management team. It focuses on identifying the activities and resources needed to sustain transitioned HIV/AIDS services, mapping the sources of resources, systematically mobilizing resources from identified philanthropists and private sector, as well as managing resources efficiently.

Lessons learned: The State Ministry of Health was involved in the plan’s conceptualization and development. This participatory approach enabled capacity transfer to the State actors. The innovation also stimulates the full participation of community - a key element of country ownership. As a result, across the two facilities; 11,750 USD was mobilized within three months to close the financial gap and these funds have since been used to procure laboratory reagents to serve as seed stock for the laboratory revolving fund.

Conclusions/Next steps: The facility resource mobilization plan should be backed by Government policy and scaled up to other health facilities as it has the potential to realize a sustainable HIV/AIDS program.


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Background: Nigeria has the second largest burden of HIV/AIDS in the world (approximately 3.4 million infected) and external financing accounts for over 75% of its HIV/AIDS resources. In order to close the resource gap, USAID’s Health Finance and Governance (HFG) project supported selected states (Lagos, Akwa Ibom, Rivers and Cross River) in Nigeria to implement a set of HIV/AIDS financing interventions.

Description: To complement Government spending on HIV/AIDS, the USAID funded Management Sciences for Health Pro-ACT project supported Zamfara State to develop resource mobilization implementation plans in two pilot health facilities to increase funding for HIV/AIDS.

Methods: This plan which responds to and is aligned with the State Strategic Health Development Plan was developed on-site over a five day period and represents the aspiration of the facility management team. It focuses on identifying the activities and resources needed to sustain transitioned HIV/AIDS services, mapping the sources of resources, systematically mobilizing resources from identified philanthropists and private sector, as well as managing resources efficiently.

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Conclusions/Next steps: The facility resource mobilization plan should be backed by Government policy and scaled up to other health facilities as it has the potential to realize a sustainable HIV/AIDS program.

Global Health Initiative Influence Over the Existence and Role of Civil Society Organization in HIV Control in Indonesia

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Background: Foreign grants for HIV/AIDS programs in Indonesia have been part of the Global Health Initiatives (GHI). Results from previous research related to the GHI showed that the GHI not only brings positive impact but also negative ones towards the healthcare system in grant-receiving countries. The role of CSO in AIDS programs in Indonesia in the future becomes important considering the diminishing funds from the GHI will surely threaten the continuity of existing programs. Therefore the objective of this research is to understand the influence the GHI has over the existence and role of CSO in HIV/AIDS response in Indonesia.

Methods: A qualitative approach was developed using interview guides and self-assessment matrices that are specifically used to answer the research objectives. The information gathered are about the existence and role of CSO in HIV/AIDS programs in Indonesia both in their partnership with the GHI, policy development, providing healthcare services and references along with advocacy activities. Twenty three CSOs, ten regional institutions and five GHI where interviewed in six Indonesian cities with CSOs working in the field of HIV and AIDS.

Results: The GHI has played an important part in providing insights and benchmarks for the government and CSO so that HIV/AIDS programs especially those related to healthcare services and prevention had developed swiftly and had been accepted by the general public for the past year. The dependency of HIV-AIDS programs to the donors affected the work orientation of CSO so that they are trapped in short-term projects. Only a few CSOs are preserving the organizational value and culture as the core spirit of their every movement and organize the program. The lack of knowledge management and learning from the works done made the CSOs seem to make fewer contributions to theories of change in human development especially for their assisted groups.

Conclusions: Findings from this research indicates that aside from the highly important role that the GHI holds for HIV/AIDS response efforts in Indonesia, the influence GHI holds towards the existence and role of CSO is extraordinarily strong, it can even affect the foundation, vision, mission, and objective of the CSO.

Mercosur Joint Price Negotiations: A Tool to Increase Access and Sustainability of AIDS Programmes

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Background: In June 2015, in Brasilia, the Ministers of Health from MERCOSUR (Argentina, Brazil, Uruguay, Paraguay and Venezuela) and Associated States (Bolivia, Chile, Colombia, Ecuador, Peru and Suriname) issued a Declaration concerned about the soaring costs of medicines. One issue was the price disparity in Latin America and its impact on access, in particular medicines for HIV/AIDS and hepatitis. In the Declaration they mandated a working group (WG), comprised of representatives from MOH from MERCOSUR, to identify alternatives and opportunities to address this issue, especially joint negotiation schemes.

Description: In September 2015, the Ministers of Health signed an agreement to establish an Ad Hoc Committee for Joint Price Negotiation for Medicines. It established that:
TUPEE588

SHOULD SOUTH AFRICA INTEGRATE HIV FINANCING INTO NATIONAL HEALTH INSURANCE, AND HOW? A FRAMEWORK-DRIVEN APPROACH TO FACILITATING POLICY DIALOGUE


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Background: As South Africa prepares to implement National Health Insurance (NHI), the National Treasury and the National Department of Health are exploring how to incorporate funding for the country’s HIV program—which accounts for nearly 30 percent of government spending on primary health care (PHC)—into a future NHI Fund. To help policymakers consider various approaches to financially sustaining the country’s HIV response, we conducted a feasibility study of integrating HIV and other health financing.

Methods: First, we characterized South Africa’s health financing system, including the extent of integration across the financing functions of revenue collection, pooling, and purchasing. Second, we constructed five integration scenarios ranging from the devolution of health funds to the creation of a national PHC fund. Each scenario contained a distinct configuration of health financing pools and governance arrangements. Third, we evaluated the scenarios’ likely impact—their effect on the HIV response. PHC services, and health system efficiency—and legal, political, and technical feasibility. For these three steps we reviewed relevant literature and government documents and data, as well as interviewed senior officials responsible for HIV and PHC services, NHI policy design, and sectoral spending. Finally, we convened policymakers to discuss findings and identify options for further study and possible implementation.

Results: The exercise illustrated a useful analytical and consultative process to scoping policy options by combining a theory-driven approach to understanding financing integration with a practical approach to ongoing policy debates in South Africa. We charted different pathways available to policymakers for integrating HIV and other health financing, as well as highlighted potential drawbacks of altering the status quo. The scenarios captured considerable variation in both their feasibility and impact on health system performance. Without recommending any one scenario, we provided a useful foundation for debate and planning among senior officials.

Conclusions/Next steps: We demonstrated that a consultative process to develop financing integration options tailored to country context can advance policy dialogue at the most senior levels of government. We will next apply lessons from South Africa to adapt the consultative process and assessment framework to Kenya and other countries working to sustain their HIV programs.

TUPEE589

AN INNOVATIVE OPPORTUNITY TO TAP: USE OF DOMESTIC RESOURCES FOR HIV RESPONSE HEALTH CARE FINANCING IN TANZANIA

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Background: In low- and middle-income countries, national health systems face financial sustainability challenges as donor funding declines. Donor dependence is particularly high for HIV programs including Tanzania. In Tanzania combined donor assistance to HIV programs amounted to average of 95% of total HIV funding every year. The NHIH and CHIF together covered 5,867,140 beneficiaries, which is approximately 13.6% of the total population in the mainland (MOHSW 2012). This shows that direct support from the government is at 5% excluding in-kind or indirect costs such as infrastructure, human resources, transport as well as health systems. Management of HIV has long-term implications for treatment costs as it requires medical attention in patients’ lifetime. Also, as an infectious disease, it requires sustained financial resources for prevention. To address potential non-donor funding resources for national HIV responses in Tanzania, Deloitte Tanzania (TUANAALI-US AID/PEPFAR Project) introduced resource mobilization interventions using domestic sources in Dodoma Regional Hospital as a pilot site by collecting funds from HIV clients using National Health Insurance Fund and Community Health Fund. This intervention was initiated as alternative source of revenues needed to complement government efforts.

Description: The alternative source of fund was collected and measured using service statistics data collected during client’s visits in their HIV Care Service point (CTC). The revenues collected was utilized for medical supplies and other related services.

Results learned: The NHIH and CHIF fund for 2015 was collected through 3,711 clients’ visits amounting to USD 64, 285.17. About 13% of the total fund used for care and treatment service at Dodoma Regional Hospital is now obtained from own source. The table below narrates two year activities.

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<tr>
<th>Period</th>
<th>Visits</th>
<th>Visits with NHH/CHF</th>
<th>Revenue collected (USD $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-Dec 2014</td>
<td>14279</td>
<td>784</td>
<td>3,570.12</td>
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<tr>
<td>Jan-Dec 2015</td>
<td>20386</td>
<td>3711</td>
<td>64,285.17</td>
</tr>
<tr>
<td>Total</td>
<td>34665</td>
<td>4495</td>
<td>67,855.29</td>
</tr>
</tbody>
</table>

Background: Critical to PEPFAR’s ability to achieve long term gains in controlling the HIV epidemic is creating sustainable local responses and increasing country ownership. This analysis looks at PEPFAR funding between 2007-2015, stratified by international or local implementing partner.

Methods: Utilizing amfAR’s Country Operational Plan (COP) Database, we categorized all implementing partners who have received at least $1 of funding in any year between 2007 and 2015 as “International”, “Local”, “US government (USG)”, or “unknown (NA)”. Data were broken out by country, year, organizational type, funding agency, program area, and budget code.

Results: Over the 2007-2015 period, the proportion of total COP funding directed to local organizations increased from 21% to 29%. Of funded local organizations, 50.65% were NGOs followed by Host Country Governments (29.36%). Funding for international organizations proportionately decreased from 64% in 2007 to 50% in 2015, largely driven by a subset of countries that receive the majority of PEPFAR funding, including South Africa, Kenya, and Nigeria. This shift also occurred in some service areas, including prevention of mother to child transmission. Nevertheless,
in only a handful of countries (n=5) was the plurality of 2015 funds provided to local organizations, and in only 6 did local organizations receive greater funding than international organizations.

### TUPEE951 SUSTAINABILITY OF THE PROGRAMS IN FIGHTING AIDS IN SERBIA WHICH WERE CONDUCTED WITHIN ROUND 1, ROUND 6 AND ROUND 8 AFTER ENDING OF PROJECTS FUNDED BY THE GLOBAL FUND

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**Background:** Global Fund approved for Serbia financing of the following HIV projects:
- 2002, Round 1 - 3.575.210.00 USD
- 2006, Round 6 - 9.557.084 EUR
- 2009, Round 8 - 12.406.231 EUR

All projects were five-year projects and were closed down in 2014. Through funds from Global Fund overall national response to the HIV epidemics had been financed including the creation of two five-year national strategic plans. The only remaining activity that the government continuously financed itself was the procurement of medicines for ART.

During the year following the withdrawal of GF from Serbia, the majority of activities realized through project funds ended.

**Description:** Activities in fight against HIV which the GF financed during its 12-year presence in Serbia were expected to continue within the framework of National AIDS Response. In 2014, a closeout period was carried out aimed to finalize the ongoing projects and to create the exit strategy through which the implementation of activities would be transferred to the stakeholders in the country. However, after close out period, nearly all the ongoing activities discontinued.

By the end of 2015, not a single NGO (out of more than 30 organizations that were carrying out activities of the project in Serbia) continued its work previously performed in the GF project. (Except few organizations which were granted small programs by the local community).

**Lessons learned:** Regrettably, the GF financed projects in Serbia did not include sound sustainability plans and proper exit strategies.

**Conclusions/Next steps:** When creating programs, Global Fund should consider long term trends of the national response that applying countries show in fight against HIV, to make sure that the funded activities are better fit into existing national response to the epidemics of HIV and that from the very beginning of the project implementation sustainability is incorporated as the most important aspect of the program in all the countries in which it finances programs in order to make sure that the national response will continue to exist even after the GF ends financing of these countries. Obviously this would require repositioning of the approach that the Global Fund currently has when evaluating national applications.

### NATIONAL FINANCING INITIATIVES

#### TUPEE952 PATIENT THANKSGIVING INITIATIVE AS A FUNDRAISING STRATEGY FOR MEETING PATIENTS’ OTHER NEEDS: TASO RUKUNGIRI EXPERIENCE

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**Background:** The AIDS Support Organization (TASO) Uganda Limited has supported over 100,000 active HIV positive people to access Services Since 1987. TASO Rukungiri one of the centers started in 2005 and is supporting 15,617 active HIV positive persons. Over years there has been success in raising funds to support client’s needs but the gap between centre demand and available resources remains high. TASO Centers were tasked by senior management to come up with initiatives aimed at increasing resource envelope to run other non donor funded activities.

**Description:** We identified different avenues from which thanksgiving to keep critical services running would be held namely; Center Annual General Meetings (AGM), candle light Memorial Day, World AIDS day, staff briefs and general staff meetings to mention but a few. Focal person was identified to request consent of clients to participate voluntarily in the initiative and also to keep track of collections from thanksgiving. Clients were also encouraged to give personal testimonies related to Living with HIV and to appreciate that there’s no greater joy than seeing someone invest in something they deeply care about. Reports presented to the stakeholders for accountability and ways to utilize the funds are suggested by staff and clients. 35 thanksgiving events were held since January 2015 to January 2016.

**Lessons learned:** In one year (4th January 2015 to 31st January 2016), 1,710,950 Uganda shillings has been raised. We have also noted increased willingness to give/donate at all TASO events. The funds collected have enabled TASO Rukungiri to link 70 needy clients’ households to community health insurance scheme and recruitment of more needy households continues.

The initiative has boosted the resource envelope for the center to also give financial support to non-medically insured needy clients who fail to meet medical bills in case of admission.

**Conclusions/Next steps:** Strategies aimed at addressing financial constraints like patient thanks giving increase the resource envelope to meet clients’ other needs in resource limited settings.

#### TUPEE953 IMPACT OF DECENTRALIZED AND REDUCED GOVERNMENT FUNDING ON HIV/AIDS PROGRAM FOR MSM AND TO POPULATION IN INDIA

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**Background:** According to 2011 HIV Sentinel Survey, the national mean HIV prevalence among transgender people (8.8) and men who have sex with men (4.4%) was about 10-20 times greater than that among the general population. However a shift from centralized to decentralized government funding mechanism has posed challenges in implementation of HIV prevention programs for MSM and TG.

**Description:** Until July 2014 all targeted interventions (TIs) received funds from State AIDS Control Societies (SACS) through National AIDS Control Organization (NACO). After NACO merged with health ministry in August 2014, funds were diverted to state treasuries instead of SACS. In Feb 2015, total budget for HIV/AIDS control was reduced by 22%. This resulted into reduced and delayed fund disbursements thus affecting delivery of services to the communities.

The Humsafar trust through GFATM R-9 MSA grant provides technical support to MSM and TG - projects in 10 states and 1 union territory. In 2015, it was observed that 11 projects in Assam, 4 in Nagaland, 2 in Jammu and Kashmir, 4 in Arunachal Pradesh, 3 in Himachal Pradesh and 8 in Uttarakhand had not received grants for more than 6 months. 7 TIs in Chhattisgarh, 3 in Chandigarh, 2 in Mizoram and 1 in Tripura received consolidated grants for 6 months in September 2015 covering only staff salaries. 14 out of 16 projects in Haryana have been closed.

**Lessons learned:** MSM and TG interventions are managed by small NGOs and during fund crunches these NGOs continued working by taking loans from their board members and small corpus to sustain human resources and operational costs with lesser allocation towards service delivery.

**Conclusions/Next steps:** The states under consideration have hidden MSM and TG population who are hard to reach. TIs had successfully reached out to this population through outreach strategies. High turnover of staff especially peer educators...
and outreach workers has affected outreach program and has increased risk of HIV transmission among MSM and TG population due to unavailability of prevention services. Timely and adequate disbursement of funds by states is need of the hour to implement HIV/AIDS prevention program for MSM and TG population.

**TRANITIONAL FINANCING**

**TUPEE594**

**GUIDING PRINCIPLES FOR TRANSITIONAL FINANCING: EXAMINING KEY FEATURES OF DONOR-COUNTRY AGREEMENTS FOR SUSTAINABLE FINANCING OF THE HIV & AIDS RESPONSE**

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**Background:** As donor assistance for HIV plateaus and even decreases, low- and middle-income countries must start planning for a transition away from donor financing. One promising tool to promote financial sustainability and uninterrupted service delivery is a well-developed, explicit agreement between countries and donors outlining programmatic and financial responsibilities and specifying mechanisms for accountability. Such an agreement can be an important means of clarifying rules and ensuring that all actors deliver on commitments. The objective of our study is to establish key guiding principles for designing transition agreements to improve government and donor policies on agreements and ensure smooth and sustainable transitions.

**Methods:** The study utilizes grounded theory to analyze qualitative data gathered from 21 donor-country agreements and key informant interviews with stakeholders from PEPFAR, the Global Fund, the World Bank, and the MCC. We identified key features relating to the roles of donors and government, inputs for planning and budgeting, and mechanisms for accountability, to identify guidelines and processes that are salient to the HIV financing transition. For each feature, we analyzed current donor practice, identified a standard to follow, and developed a guiding principle.

**Results:** The broad guiding principles identified are:

1. **Duration of agreement:** set a standardized time period for all agreements
2. **Actors involved:** select a key financing or high-level political authority as the country signee
3. **Financing targets:** specify domestic and external commitments for the duration of the agreement
4. **Issues for target setting:** ground financing commitments in country strategies, quantitative approaches, and country dialogue
5. **Monitoring and evaluation:** identify expenditure tracking tools and processes to monitor financing commitments
6. **Potential consequences:** specify mutual consequences for not meeting commitments

**Conclusions:** The guiding principles provide a clear course for the development of donor-country agreements for sustainable financing for HIV. To strengthen the guidance we are undertaking an analysis—complete in May 2016—of the HIV transition in Namibia, to identify successes, challenges, and lessons learned that can be extrapolated to other transition settings and used to ground the guidance in country experience. Our findings will help enable more smooth and sustainable HIV transitions moving forward.

**INTERNATIONAL ASSISTANCE, FRAMEWORKS AND FUNDING MECHANISMS**

**TUPEE595**

**DIAGNOSTICS AT A DISCOUNT? AN ANALYSIS OF TIERED PRICING FOR HIV DIAGNOSTICS**

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**Background:** Most people living with HIV do not reside in the same countries where technologies for combatting HIV/AIDS are produced. In order to account for the differential ability of consumers across the globe to pay for important health products, firms might employ strategies of tiered pricing. In this analysis, I sought to determine whether national income is associated with the price at which diagnostics to detect HIV are purchased.

**Methods:** Transactional data were obtained from the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria for purchases of HIV tests by recipient countries from 2005-2015. Examining the distribution of prices for HIV tests, I constructed three tiers to reflect purchases made at low, middle, and high prices. I employed an ordered logit model to determine whether gross national income per capita is associated with purchasing diagnostics at each price tier. As covariates, I included national HIV prevalence, purchase volume, whether diagnostics were procured directly from the manufacturer, whether freight costs were embedded in the price, and the year of purchase.

**Results:** Prices for diagnostics to detect HIV varied considerably. On average, HIV tests purchased at a low price tier cost 0.48 USD per test (SD=0.26). At a middle price tier, HIV tests cost 1.00 USD per test (SD=0.18) and at a high price tier, HIV tests cost 4.19 USD per test (SD=3.30). As national income increases, recipients of Global Fund assistance are more likely to purchase HIV tests at low prices (p<.05) and are less likely to purchase HIV tests at high prices (p<.05).

**Conclusions:** Contrary to expectation, I did not find evidence that HIV tests are differentially priced to account for the varying ability of consumers to pay for these products. Rather, it appears that low-income countries are less likely to purchase HIV tests at low prices and that as income increases, countries are more likely to purchase HIV tests at low prices. Despite arguments that strategies of tiered pricing could enhance access to important health products while preserving profits, these findings suggest that such strategies do not dominate global pricing for HIV tests.

**TUPEE596**

**MOST IMPACTED LEAST SERVED: MEANINGFUL ENGAGEMENT OF TRANSGENDER PEOPLE IN GLOBAL FUND PROCESSES**

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**Background:** Globally transgender people are vigorously affected by HIV/AIDS. Social stigma, punitive laws, lack of community friendly services and resources, less or no opportunity for being in the decision making process made them unserved regarding HIV response. A global study, undertaken by IRGT, a Global Network of Transgender Women and HIV, has helped to identify the extensive barriers to address transgender specific needs in HIV epidemic and what has been the mechanism undertaken for engaging transgender people by key donors such as Global Fund.

**Methods:** Apart from study and literature review, semi-structured interviews were conducted with transgender community activists from different parts of the globe, data were collected from civil society organization (CSO) representatives, and officials from the Global Fund and other major HIV donors. The study has unfolded the different needs and challenges faced by the transgender community throughout the globe, the current scenario of the HIV epidemic among the transgender population and also the strategies adopted by the key donor agencies.

**Results:** Five key findings revealed in interviews around the meaningful engagement of transgender people in Global Fund processes, 1) Data collection with and among trans people; 2) Tokenistic engagement of trans people in Global Fund processes; 3) Capacity-building, organizational development, and social support; 4) Global Fund withdrawal from middle income countries; and 5) Critical role of global and regional networks of trans advocates.

**Conclusions:** In recent years, Global Fund initiated activities to increase the meaningful engagement of transgender people in their programme implementing process. Five recommendations listed to ensure more meaningful engagement of transgender people are - 1) Support trans-specific data collection and engagement 2) Recognize and reinforce the engagement of trans activists and organizations as technical and community experts contributing to Global Fund processes 3) Ensure that Global Fund withdrawal from middle income countries does not undermine trans programming and engagement 4) Reinforce capacity and development of trans activists and organizations and 5) Finance and work with global and regional trans networks to increase the meaningful engagement of trans people, improve gender sensitivity, and advance policy change.
EFFECT OF HEALTH INSURANCE SCHEMES AND OTHER SUPPORT MODELS ON ACCESS, ADHERENCE, AND OUTCOMES

TUPEE597
PUBLIC AND PRIVATE SECTORS COLLABORATION FOR INCREASED ACCESS TO TREATMENT

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Background: The National AIDS Council utilises 50% of its AIDS Levy income on treatment and care, which include procurement of ARVs. These ARVs have been available for free, even to workers whose medical aid covers ARVs. Unfortunately, due to self stigma and lack of time to present at public facilities, workers would be forced to rely on medical aid, and in this process have to pay additional costs after exhausting medical aid limits due to high prices in the private sector.

Description: Noting these challenges, the National AIDS Council and its partners initiated a partnership called Increased Access to Treatment, wherein NAC procures comparatively cheaper ARVs in bulk. The ARVs are stored at the National Pharmaceuticals Company, and accessed by private pharmacies and doctors. There is a small markup percentage charged along the chain, taking the price from US$10 at importation to below US$17 retail.

Effectively, this arrangement has reduced the price of ARVs on the private scheme from at least US$70.00 per person per month to not more than US$17.00 for the TLE combination. The National AIDS Council invested US$1.5 million at the start of the partnership and has now recovered US$1 million, which is the past was considered spent money. The recovered amount has been re-invested into procurement of new drugs. Over 100 pharmacies across the country are currently participating, with opportunities for growth as new pharmacies join in.

Lessons learned: Patients on medical aid are unlikely to exhaust their annual drug limit. The productive capacity of the patients is improved as they no longer wait long hours queuing for treatment in public facilities, while decongesting public facilities.

At the same time national resources are saved as funders reduce expenditure on ART prescription. Additionally, the initiative addresses stigma and discrimination as clients on medical aids access services in confidential circumstances. As a domestic and sustainable funding system, the initiative has enabled the underfunded NAT-PHARM to raise over US$150, 000 in administration fees.

Conclusions/Next steps: Public and private sectors collaboration has increased domestic funding contribution to treatment and created an opportunity for funding other essential drugs for cancer and TB.

EFFECTS OF FINANCIAL CRISIES

TUPEE598
EFFECTS OF THE INTRODUCTION OF COST-SHARING IN HIV TREATMENT DUE TO DONOR FUNDING REDUCTION ON THE PEOPLE LIVING WITH HIV (PLHIV) UTILIZING ANTIRETROVIRAL CLINICS IN IBadan, NIGERIA

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Background: The donor agencies are largely responsible for the costs of antiretroviral treatment (ART) - laboratory investigations and medicines - in Nigeria and other developing countries. This resulted from advocacy by global civil societies including the community of PLHIV. The downturn in global economy and changing policies in the western countries led to the scaling down of support for free treatment. This resulted in the introduction of cost-sharing for laboratory investigations while ART medicines remain free in Ibadan ART centres. This study explored the effects of cost-sharing for HIV/AIDS treatment on PLHIV utilizing such ART services.

Methods: This qualitative study was conducted among PLHIV in 5 ART Centres (3 paying and 2 non-paying) in Ibadan. Using a developed Guide, 2 Focus Group Discussions (FGD), 1 male and 1 female, were conducted per centre. The discussions explored the effects of cost-sharing on PLHIV in facilities that introduced payment for investigations. Data were analysed using the thematic approach.

Results: The mean age of participants was 40 years. Three ART Centres introduced cost-sharing 4-10 months before this study. PLHIV part-paid for biochemical and hematologic investigations and purchased opportunistic infections medicines. The ART medicines and virologic/immunologic investigations remained free. The policy was "no cost-sharing for laboratory investigations, no free antiretroviral medicine". The costs paid was 2000 - 12000 Naira ($7-$45) in annual, biannual or monthly instalments. Children paid 500 Naira ($2.5) monthly in one centre. Following cost-sharing introduction, PLHIV reported widespread payment difficulties resulting in drastic changes in treatment quality; strained caregiver/PLHIV relationships; hopelessness and depression; increased loss to follow-up; irregular clinical attendance; delayed treatment initiation among new PLHIV; worsening clinical conditions and increasing deaths. Difficulties with paying resulted from poverty, unpreparedness for the change, non-disclosure to potential supporters, and spousal refusal to assist.

There seems to be no gender differences in their experiences. PLHIV requested the government to sustain free services, or provide realistic economic empowerment.

Conclusions: The introduction of cost-sharing due to dwindling donor funding is causing disruptions in ART services and impacting adversely on the PLHIV. The government need to intervene promptly with alternative funding mechanisms to curb the emerging public health crisis.

ECONOMIC EVALUATION OF PREVENTION, TREATMENT, AND/OR CARE PROGRAMMES

TUPEE599
PATIENT COSTS OF ANTIRETROVIRAL TREATMENT FOR MEN WHO HAVE SEX WITH MEN (MSM) IN JIANGSU PROVINCE, CHINA

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Background: China’s National Free Antiretroviral Therapy program has treated about 420,000 people living with HIV/AIDS since 2002, reducing mortality from 10.7% in 2010 to 5.6% in 2015. The cost-effectiveness of ART encouraged the Chinese government to scale up free ART. However, little data on costs of ART beyond free first and second-line medicine for patients exist, especially among MSM who account for a growing proportion of the epidemic in China.

Methods: A cross-sectional survey on costs of ART was conducted in 2015 in three cities of Jiangsu province, China. MSM registered in the national ART management system and had taken ART for at least 1 year (initiated on or before December 31, 2013) were enrolled. ART clinic physicians contacted MSM and conducted a structured interview at the time of picking up medicine or at a scheduled appointment to collect information on patients’ direct and indirect costs incurred in obtaining ART in 2014. Information of the direct costs included direct medical expenditure such as routine examination, medical care and costs of treating side-effects of drugs and AIDS-caused opportunistic infections (OIs), and direct non-medical costs such as transportation costs. Indirect costs included patients’/family members’ lost wages and lost jobs. Differences in costs between groups were compared using the Wilcoxon rank sum test. In a generalized linear regression model, total costs were log-transformed.

Results: Of 1,003 eligible MSM identified, 845 were interviewed. Median age was 36 years, median monthly income was between 313-781 USD, 83.5% had insurance. Viral load was < 1000 copies/cu. for 94.2% in 2014. The overall annual median cost of ART for MSM was 146 USD (IQR: 84-340). Main expenditures were from direct medical costs (88USD, IQR 57-200), followed were direct non-medical costs (13 USD, IQR 3-38). No indirect costs were paid by patients and their family members. Generalized linear regression found total patient cost of ART significantly higher early in treatment (F=48.52, P<0.0001) and in those with OI (F=39.63, P<0.0001).

Conclusions: Most MSM paid less than 150 USD per year to obtain ART in Jiangsu province, China. Our findings suggest that expansion of earlier HIV treatment among Chinese MSM is financially feasible to the patient.

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**TUPE600**

**POTENTIAL COST SAVINGS IN REDUCING ANTIRETROVIRAL REFILL SCHEDULES FOR STABLE PATIENTS ON ANTIRETROVIRAL THERAPY AT TASO, UGANDA**

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Background: TASO runs antiretrovirals (ARV) refill appointment for stable clients after monthly, bi-monthly and quarterly periods. This was implemented after noting an increase in patients who would attend at random for refills. These routine refill appointments were aimed to reduce the frequency of client attendance for drug refills and clinical checkups for stable patients on ART. TASO examined the potential cost savings during two, three month and 6 month refill schedules to refill patients’ ARVs.

Methods: We identified the drivers of treatment costs per patients in TASO, which included staff wages, operational costs, medications, laboratory and training costs. A baseline cost was computed per patient using an average cost per visit based on 2012 cost analysis of $38.86USD per visit. The average patient visited TASO for ARV refill 6 times per year. This cost was used to estimate an annual cost of treatment based on the three frequencies of ARV refill. A stable patient is one who has disclosed serostatus, reports excellent adherence level and an CD4 above 350 cells/ml.

Results: For 2 month refill period based on six visits per patient per year will cost USD$223, three (3) months refill assuming reducing visit per patients from six to four per year with 33% savings in staff and operational costs based on the drivers of treatment costs identified above will cost USD $189, six (6) months refill assumes reducing visits per patients from four to two with 50% saving in staff and operational costs based on the cost drivers identified will cost US $146.

Conclusions: Increasing the duration between ARV drug refill appointments for stable patients has the potential of reducing cost for caring of HIV infected patients throughout TASO Uganda centers and in sub-Saharan Africa. Reducing appointment frequency from 2 to 6 months should be investigated for long-term stable patients that are virally suppressed and report good adherence levels. Future research should be conducted to explore possible extrapolation of these findings to other sub-Saharan African countries.

**TUPE601**

**CLINICAL OUTCOMES AND COST-EFFECTIVENESS OF ART MONITORING IN MOZAMBIQUE: CLINICAL LABORATORY CD4, POINT-OF-CARE CD4 AND VITAL LOAD STRATEGIES**

E. Hyle, L. Jany, K. Rossette, R. Wood, S. Resch, T. Peter, K. Freenberg, R. Parker, R. Walensky

1 Massachusetts General Hospital, Boston, United States, 2 Instituto Nacional de Saúde, Maputo, Mozambique, 3 Desmond Tutu HIV Centre, Cape Town, South Africa, 4 Harvard T. H. Chan School of Public Health, Boston, United States, 5 Clinton Health Access Initiative, Gaborone, Botswana

Background: Point-of-care CD4 tests (POC-CD4) expedite clinical decision-making but can be less accurate/precise and more expensive than laboratory CD4 (LAB-CD4). We examined the clinical and economic impact of POC-CD4 in Mozambique to monitor for ART failure, since HIV RNA is not widely available.

Methods: We used a validated model to simulate a cohort of HIV+ adults at ART initiation. Patients were monitored clinically (CLIN), with annual CD4 tests (LAB-CD4 or POC-CD4), or HIV RNA (VL). We examined 2 settings: without laboratories (POC-CD4 vs CLIN) and with laboratories (VL vs POC-CD4 vs LAB-CD4). The cohort was 63% female, mean age 30y (SD 10y), and median CD4 166/µl (IQR 78-226/µl). Table (left side) provides strategy-specific parameters. Model outcomes included life expectancy (LE), lifetime medical costs (both discounted, 3%/yr), and incremental cost-effectiveness ratios (ICER, $/year of life saved (YLS)). We varied POC-CD4 costs, test characteristics, time to adherence intervention or regimen-switch in sensitivity analyses.

Conclusions: Compared to CLIN, POC-CD4 was near the cost-effectiveness threshold and improved outcomes compared to CLIN. With laboratories available, LE was 12.8y (LAB-CD4), 12.9y (POC-CD4), and 13.4y (VL); lifetime costs were $4,400 (LAB-CD4), $4,580 (POC-CD4), and $5,170 (VL), resulting in similar ICERs of $1,440/YLS and $1,550/YLS. At higher POC-CD4 costs, poorer POC-CD4 test characteristics, or longer POC-CD4 time-lags, POC-CD4 was dominated (reduced LE, higher costs); the ICER of VL vs LAB-CD4 decreased ($1,520/YLS). With laboratories available, ICERs of POC-CD4 and VL were similar (vs LAB-CD4); investments in VL should be prioritized.

TUPE602

**HOW DOES THE COST OF PATIENT CARE CHANGE WITH THE INTRODUCTION OF ROUTINE VITAL LOAD MONITORING? A MICRO-COSTING STUDY FROM KENYA**

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Background: This paper evaluates the impact of introducing routine vital load monitoring (VLM) at 6, 12, and 18 months on the cost of care for patients receiving antiretroviral therapy. Patient-level data come from a clinical trial of VLM in Kenya (CLADE study).

Methods: A micro-costing approach, based on detailed patient medical records, was used to evaluate the costs of care (2012 $US) for each patient in each study arm through their first 18 months on ART (the per-protocol groups; Arm A: no RVLM, n = 336; Arm B: VLM, n=321). Resources included in costs were ARV and non-ARV drugs, diagnostic tests, staff, and clinic fixed costs. The year 2012 is used for the costing analysis because the majority of patient follow up was during 2012. The unit cost of a viral load test in 2012 was $52.94, and the cost of a CD4 test was $9.41.

Results: Table 1 reports the average quantity of key resources used for patients in each study arm. Table 2 reports average costs of care for patients in each study arm.

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TUPEE0603
A BETTER DEAL FOR MOTHERS AND CHILDREN: MODELING THE COST-EFFECTIVENESS OF CIVIL SOCIETY ORGANIZATIONS FOR DELIVERING PMTCT SERVICES
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1 Abt Associates Inc, International Health Division, Bethesda, United States, 2 John Snow Inc, Arlington, United States, 3 Elizabeth Glaser Pediatric AIDS Foundation, Washington, United States, 4 Abt Associates Inc, International Health, Bethesda, United States
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Background: Governments are considering contracting civil society organizations (CSOs), including faith-based organizations, to expand prevention of mother to child transmission (PMTCT) services. These organizations have well established working relationships with communities and marginalized populations, and have reported higher retention in care. However, there are few studies assessing CSOs’ provision of health services in terms of value-for-money. This economic evaluation assessed the cost-effectiveness of CSOs and public facilities in Kenya in the provision of PMTCT services.

Methods: We use an activity-based costing approach, dividing PMTCT into six components: HIV counselling and testing (HCT), antiretroviral therapy (ART) for the mother, early infant diagnosis (EID), NVP and CTX prophylaxis for the infant and ART for the child. We developed probability trees of PMTCT services provided by CSOs and public facilities and modeled the progression from when a pregnant woman enters the health system through to the infant’s HIV status after one year. We used actual costs for HCT and ART from Kenya and filled data gaps for some components using assumptions based on comparable reports of costs and effectiveness from various health interventions delivered by public facilities and CSOs.

Results: We estimated that PMTCT services per mother-child pair in Kenya cost US$433 in CSO facilities as compared to US$511 in public facilities. Overall, most PMTCT components were more costly in public facilities except for HCT. HCT cost US$19.65 per woman in CSOs and US$17.64 in public facilities. ART for mothers cost US$330.00 in CSOs and US$349.35 in the public sector. Preliminary calculations suggest that the incremental cost-effectiveness ratio (ICER) of CSO-PMTCT services compared to public PMTCT facilities is US$823.40 per life year saved.

Conclusions: Though CSOs outstrip is only a weak case, the incremental costs are higher among children 0-23 months than other ages. Costs of antiretroviral regimens increase with age, from US$104 per patient-year in patients ages 0-23 months to US$140 for those 15-19 years. The total resource needs for essential cascade activities and commodities considered is estimated at US$74.8 million for calendar years 2016 and 2017.

TUPEE0605
OPTIMIZING THE RESPONSE OF HIV PREVENTION AND TREATMENT: ASSESSING EFFICIENCY OF HIV INTERVENTIONS IN NIGERIA
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Background: As Nigeria faces dwindling resources for HIV, there is a need to optimize the use of resources in order to ensure scale up of HIV services as well as achieve national objectives and target. Unit cost estimates are essential for the better use of resources and information on the heterogeneity in the unit among interventions and across health facilities is critical to addressing inefficiencies. The aim of the Optimizing the Response of Prevention Treatment and HIV Efficiency in Nigeria (ORPTHEN) study is to measure costs and identify determinants of higher efficiency of HIV prevention and treatment programs.

Methods: The study was a retrospective, cross sectional, observational assessment in 200 sites across 17 states in Nigeria in 2015. The goal was to assess the total cost, average cost and determinants of efficiency for three HIV interventions: HIV counseling and testing (HCT), Prevention of Mother to Child Transmission (PMTCT) and Antiretroviral Therapy. Data was collected from primary, secondary and tertiary facilities in seventeen Nigerian states on inputs to HIV prevention services and their costs, outputs produced in 2013 fiscal year, the environment and constraints in which production decisions are made.

Results: The weighted average cost per HCT client tested was estimated at US$12.4, Cost per PMTCT client tested was US$19.3 and Cost per ART client was US$157. The major cost component for prevention interventions is staff while ARVs is the major cost component for ART. The study also revealed that characteristics such as scale of service provided and type of facility contributes to heterogeneity of costs.
TUPE606
THE COST OF VOLUNTARY MEDICAL MALE CIRCUMCISION IN SOUTH AFRICA

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Background: South Africa has a low prevalence of male circumcision. On the basis of compelling and overwhelming evidence that voluntary medical male circumcision (VMMC) reduces men’s risk of becoming infected through heterosexual intercourse, South Africa in 2010 embarked on scaling up its VMMC program. To project the resources needed for continued scale-up of VMMC services and ensure program sustainability, it is crucial to:
1. Estimate the unit cost to provide VMMC,
2. Assess cost drivers and cost variances across the provinces and different VMMC service delivery modes, and;
3. Evaluate the costs associated with mobilizing and motivating men and boys to access VMMC services.

Methods: Cost data were systematically collected and analyzed from 33 government and PEPFAR-supported (U.S. President’s Emergency Plan for AIDS Relief) urban, rural, and peri-urban VMMC facilities from eight of South Africa’s nine provinces. Unit costs were calculated from a bottom-up approach. All costs are reported in U.S. dollars.

Results: The per circumcision performed in South Africa in 2014 was $132, with the largest cost drivers being direct labor (43%), consumables (24%) and quality assurance/quality improvement (13%). The unit cost was higher when performed in public hospitals ($158), compared to health centers and clinics ($121). Direct labor costs could be reduced by 17% if South Africa were to encourage task shifting from the largest cost drivers being direct labor (43%), consumables (24%) and quality assurance/quality improvement (13%). The unit cost was higher when performed in public hospitals ($158), compared to health centers and clinics ($121). Direct labor costs could be reduced by 17% if South Africa were to encourage task shifting from doctors to professional nurses, which could have resulted in saving as much as $15 million in 2015, during which the country had set a target of performing 1.6 million circumcisions. About $14.2 million was spent on VMMC demand creation in 2014.

Conclusions: The VMMC unit cost ($132) in 2014 was generally consistent with other studies that analyzed VMMC unit costs in South Africa. VMMC demand creation requires further investigation to assess if the level of spending and the allocation of spending are appropriate for South Africa’s VMMC program. The results of this study are expected to inform strategic planning for continued scale-up of VMMC and to identify the resources required to sustain the VMMC intervention.

TUPE608
DOES INTRODUCTION OF PREPExTM INTO AN EXISTING SURGICAL VMMC PROGRAM SAVE MONEY?

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Methods: Cost data were systematically collected through facility surveys and information provided by CHAPS. The contributions of the following cost categories to the unit costs were assessed: direct clinical labour, support staff, medicine and consumables, transportation cost or foregone income. Since these costs might pose challenges to implementation, it is crucial to evaluate whether the introduction of PrePexTM into an existing surgical VMMC program can save money.

Results: The per circumcision performed was lower after the introduction of PrePexTM. All other expenditures on equipment, overhead, CQI, transportation cost or foregone income. Since these costs might pose challenges to implementation, it is crucial to evaluate whether the introduction of PrePexTM into an existing surgical VMMC program can save money.

Conclusions: The introduction of PrePexTM into an existing surgical program did not increase the cost per VMMC. Results indicate that the introduction of PrePexTM in clinical settings where surgical VMMC is already taking place may not result in increased costs per unit since no additional equipment is required for the PrePexTM procedure and the additional costs of medicines and consumables is not expected to be significant. While additional clinical labour might be needed as the total number of clients increased considerably, while the total expenditure incurred remained fairly constant. The only increase in total expenditure was seen among medicines and consumables - total expenditure on medicines and consumables increased from US$ 238,565 (approximately R2.5 million) to US$ 255,491 (approximately R2.7 million), thereby resulting in a 7.1 percent increase in expenditure on medicines and consumables after the introduction of PrePexTM. All other expenditures on equipment, overhead, CQI, and vehicles remained the same.

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TUPEE609  
THE IMPACT OF INTEGRATED PRODUCTION ON THE EFFICIENCY OF HIV PREVENTION SERVICES: ECONOMETRIC ESTIMATES FROM THE ORPHAE FOUR-COUNTRY SAMPLE

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Background: The widely shared ambition to greatly expand the provision of HIV prevention services in severely affected countries will be more affordable if national programs can achieve “economies of scale”, so that total prevention costs expand less than proportionately with the expansion of prevention services. Another potential source of economies is the integration of multiple HIV services within a single facility in the expectation that the facility can achieve “economies of scope”. In a facility producing multiple services with shared personnel, these two sources of cost-savings are closely related, since the economies of scale of expanding any one service will typically depend on its synergy with other services and thus on the rates at which those other services are simultaneously expanded.

Methods: In order to identify, differentiate and empirically estimate the potential contribution of each of these two sources of cost savings, this study develops and applies a method for estimating a joint cost function for producing two HIV prevention interventions; HIV testing and counseling (HTC) and prevention of mother-to-child transmission (PMTCT) in Kenya, Rwanda, South Africa and Zambia. Using the data collected for 2011–2012 by the ORPHA project from 194 facilities producing both services and controlling for service quality, we compare the fit of several different model specifications to characterize the effects of scale, scope and input prices on total facility costs of HTC and PMTCT.

Results: For HTC, holding PMTCT constant at its mean, we estimated the economies of scale (1-0.04) to be statistically indistinguishable from zero. For PMTCT, holding HTC constant at its mean, we estimated substantial economies of scale: doubling the number of pregnant women tested increases total facility cost by only 33% in all countries (p-val < 0.01), and at most by only 65% for Zambia (p-val < 0.01). Economies of scope are also significant if we increase both outputs maintaining a low ratio of HTC to PMTCT.

Conclusions: Our results suggest that policy makers will be misled by cost projections that assume a constant “unit cost” of either HTC or PMTCT or assume that the impact of scale on the cost of either is independent of the other.

TUPEE610  
OPTIMIZING THE RESPONSE OF PREVENTION AND TREATMENT: ESTIMATION OF ANTIRETROVIRAL COSTS OF HIV/AIDS TREATMENT IN NIGERIA

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Background: Nigeria has committed to provide comprehensive HIV services to all in need. Yet as in most countries in the region, critical HIV financing shortfalls will likely arise and persist as eligibility for and demand for access to services continue to increase. Greater efficiency and effectiveness throughout HIV programming are therefore essential priorities. The objective of this study was to estimate the average annual cost per HIV patient treated and factors associated with their variation.

Methods: We analyzed data from a cross-sectional study carried out in 200 health facilities providing integrated HIV services located in seventeen States with the highest HIV prevalence in Nigeria, between December 2014 and May 2015. We estimated the annual antiretroviral (ARV) cost per patient. An index of the antiretroviral and TB drugs dispensed in each facility during the costing year, weighted by the frequency of use of each specific drug was estimated. Annual ARV treatment cost per patient was estimated by adding annual costs of staff, utilities, capital, training, laboratory tests (CD4), ARV drugs and TB treatment divided by the average number of patients reported for 2014.

Results: The national average weighted cost/patient was $156.6, while the average annual cost/patient across facilities was $231.4 and the median was $159.1. Average unweighted costs were $257.2 in secondary level facilities and $158.7 in tertiary level facilities. Staff, ARVs and laboratory tests were the most important components of the ART costs/patient (38%, 40.4% and 16.5% respectively). Additionally, the cost per patient per facility decreases as the size of facility increases. Although secondary level facilities -that attend fewer patients- have higher costs compared to tertiary facilities, findings reveal that a larger number of patients is associated with higher costs in tertiary level facilities.

Conclusions: The study showed a wide variability in the average annual ART costs/patient. The differences are associated with the number of patients attended. Staff, ARVs, followed by laboratory costs are the main components of the cost/patient of ART services in the overall sample. Results from the study will help design intervention to improve efficiency in the delivery of comprehensive HIV services in Nigeria.
TUPE6613 EXAMINING THE RELATIONSHIP BETWEEN QUALITY AND EFFICIENCY OF HTC AND PMTCT SERVICES SUPPLY IN KENYA AND ZAMBIA USING DATA ENVOLPMENT ANALYSIS (DEA)
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Background: Several efficiency studies have highlighted the importance to achieving lower costs of operation without compromising the quality of the HIV services, however little empirical evidence exists on the trade-off between economic efficiency and quality-gains. Furthermore, quality has been traditionally ignored in efficiency analyses of HIV health services. We analysed the relationship of efficiency and quality of two HIV prevention interventions; HTC testing and counseling (HTC) and prevention of mother-to-child transmission (PMTCT) in Kenya and Zambia.
Methods: Using data collected in 2012-2015 by the ORPHEA project, we applied data envelopment analysis (DEA) in 129 facilities to assess the efficiency of the supply in the study countries. DEA scores were defined using an output-orientation with multi-inputs and multi-outputs. We also estimated a pro-quality index using clinical vignettes to assess levels of competence of health staff. We identified quadrants where facilities fall into, according to their efficiency and quality scores.
Results: The quality score varied between 20% and 70%, and 40% and 80% for PMTCT and HTC services, respectively. The efficiency score ranged from 10% to 95%, and from 1% to 98% for PMTCT and HTC services, respectively. For PMTCT services, 13% of the facilities showed high-efficiency and high-quality, 31% low-efficiency and low-quality, 3% low-efficiency and high-quality and 53% high-efficiency and low-quality. Regarding HTC services, 19% of the facilities display low-efficiency and high-quality, 21% low-efficiency and low-quality, 14% low-efficiency and high-quality and 45% high-efficiency and low-quality.
Conclusions: There are facilities with high efficiency and quality offering HTC and PMTCT services. However an important challenge remains for improving quality and efficiency among facilities with low levels of efficiency and quality. Remarkably, the proportion of facilities located in the quadrant of high-efficiency and low-quality for HTC and PMTCT services is the highest among the four quadrants - highlighting the crucial trade-off between these elements of services provision. Additional exploration of facilities that underperform in one of the two measures is needed, particularly those with high efficiency and low quality, in order to identify the mechanisms that can improve facility performance without compromising these two competing outcomes.

TUPE6615 COST-ANALYSIS OF THE PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV/AIDS SERVICE IN ETHIOPIA: URBAN-RURAL HEALTH FACILITIES SETTING
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Background: Local context costing evidence continues to be scarce in Ethiopia while it is relevant for health care planning, budgeting and cost-effectiveness analysis. This study aimed to identify, measure and value the cost of providing prevention of mother-to-child transmission of HIV/AIDS (PMTCT) service across heterogeneous prevalence (high, low) and socio-economic status (urban, rural) contexts.
Methods: A total of twelve health facilities from six regions (Amhara, South Nations and Nationality Peoples (SNNP), Harrar, Dire Dawa, Oromia and Addis Ababa) are purposively selected from the latest 2012 ANC Sentinel HIV prevalence report (EPHI, 2014). Six health facilities with the highest HIV prevalence (8.1% to 17.3%) among pregnant women were chosen in urban setting and six health facilities with the lowest prevalence rate (0.0% to 1.0%) were selected from the rural setting. We applied an ingredient based costing approach to identify, measure and value the resource used for the provision of comprehensive PMTCT service at the lowest health service unit. The analysis was conducted across different PMTCT service packages and major resource ingredients. We applied a 3% discount rate, and adjusted to inflation to the base year (2014).
Results: The unit cost per pregnant women and infant pair per year (PPY) range from €6,280.39 ETB (319.28 USD) to 21,620.19 ETB (1,099.12 USD) in the urban highly HIV prevalent health facilities. In rural low HIV prevalent health facilities, the cost ranges from 4,322.62 ETB (219.75 USD) to 7,538.46 ETB (383.24 USD). PMTCT service provision in the urban health facilities costs more than twice the cost in rural health facilities. Consumables (including antiretroviral treatment drugs) and infrastructure are the major cost drivers in the urban and rural health facilities.

TUPE6613 COST-EFFECTIVENESS OF THREE PI-BASED SECOND-LINE ANTIRETROVIRAL TREATMENT COMBINATIONS IN HIV-INFECTED PATIENTS IN SUB-SAHARAN AFRICA (ANRS 12169 -2LADY)
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Background: Cost of second-line antiretroviral treatment (ART) together with a decrease in funding for HIV/AIDS programs in sub-Saharan Africa strongly limit access to second-line ART in those countries. Identifying the best treatment strategies, both in terms of health benefits and costs is essential to optimize available resources. A cost-effectiveness analysis was conducted to assess three second-line combinations in Cameroon, Burkina-Faso and Senegal.
Methods: We used data from the randomized, non-inferiority, 48-weeks ANRS-12169 2-Lady trial. Between 2010-2012, 454 HIV-infected patients failing a first-line ART were randomly assigned to: tenofovir/emtricitabine+lopinavir/ritonavir (arm A; one of WHO recommended-regimens), abacavir/didanosine/lopinavir/ritonavir (arm B); tenofovir/emtricitabine+darunavir/ritonavir (arm C). After week 48, the follow-up was pursued until the last patient enrolled had the W48-visit. The analysis was conducted from a modified societal perspective including the following costs: comorbidities and antiretroviral drugs, laboratory tests, consultations and inpatient follow-up was pursued until the last patient enrolled had the W48-visit. The analysis was conducted across different PMTCT service packages and major ingredient based costing approach to identify, measure and value the resource used for the provision of comprehensive PMTCT service at the lowest health service unit. The analysis was conducted from a modified societal perspective including the following costs: comorbidities and antiretroviral drugs, laboratory tests, consultations and inpatient costs. We assessed health benefits as the number of Life Year Saved (LYS). Costs and health benefits of each strategy were estimated over a four-year period using a patient-level Markov model. Uncertainty was handled using the cost-effectiveness acceptability curves method.
Results: 451 patients were included in the analysis with a median follow-up [inter-quartile range] of 3.0 [2.5;4.0] years. The estimated cost per patient-year was €702 (arm A), €1010 (arm B) and €1184 (arm C). Arm A was significantly cheaper than arms B and C with a significant cost difference [95% Confidence Interval (CI)] of €1063 [-1188;-935] and €1862 [-1990;-1719], respectively. Arm A presents similar health benefits as the two others, with a non significant difference in LYS [CI 95%] (A versus B: 0.03 [-0.07;0.16] and A versus C: 0.06 [-0.05;0.18]). Cost-effectiveness acceptability curves show that in each study country, arm A had a 100% probability to be cost-effective when compared to B and C. Furthermore, the combination C would be cost-effective if the monthly price of Darunavir reduced by 75% (from €65 to €16).
Conclusions: Our findings suggest that the combination A provides the best economic value at current ART prices compared with the two other alternatives. Substantial price reduction of Darunavir would also make combination C cost-effective in the study countries.
Anti-retroviral treatment option B+ follow-up and counseling service accounted for the highest proportion of costs, which ranges from 58% to 72%, across the PMTCT service continuum.

Conclusions: The analysis suggests that resource used for PMTCT service packages varied across health facilities and HIV prevalence settings. Providing PMTCT service in the high HIV prevalent urban health facility settings cost more than the rural. Context-specific costs are vital to provide local relevant evidences for health service management and priority setting.

TUPEE16

HIV RESOURCE ALLOCATION AND BUDGETARY POLICIES UNDER CONDITIONS OF UNCERTAINTY

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Background: Decision modelling now plays a key role in determining which HIV interventions are prioritised for funding, and in which populations and geographical regions. This process is based on the costs and health outcomes expected to be generated by different programmes. However, these costs are uncertain, and where costs are unexpectedly high this may result in planned programmes becoming unaffordable. This can happen for a range of reasons, including unanticipated epidemiological conditions. This work examines how decision makers react to unexpected cost variances, how this impacts on the health generated by HIV funding and what might be done to avoid costly responses to uncertainty.

Methods: We use a transmission model to predict the costs and quality adjusted life years (QALYs) associated with investing a fixed HIV budget across six regions for 15 years. The model reflects a sub-Saharan African setting with a generalised epidemic in which regions differ in terms of the proportion of people living with HIV. HIV budgets of $0-30 per capita are considered. Health care decision makers could choose to invest in one or more interventions (late ART, male voluntary circumcision or early ART) in each region at a range of coverage levels. Uncertainty in key parameters (HIV prevalence, intervention costs and intervention effects) is propagated through the model using Monte Carlo simulation.

Results: If we assume that decision makers are required to remain within their regional planned budgets, the QALYs generated by the HIV budget are 15% lower than expected when the HIV budget is $10 per capita and 19% lower when it is $20 per capita. This reduces to 4% and 9% if we assume decision makers can re-allocate funds across regions in response to uncertainty. Research that reduced uncertainty could increase health to the level originally expected.

Conclusions: Current predictions of the health generated by HIV budgets do not take into account that decision makers may need to alter planned programmes in order to meet within programme budgets. This reality may substantially re-allocate the health generated by HIV spending. Efforts to re-design budgetary policies or reduce uncertainty via research can increase health.

TUPEE17

ECONOMIC ANALYSIS OF EFFECTIVENESS OF INVESTMENTS IN HIV PREVENTION SERVICES AMONG KEY POPULATION GROUPS IN UKRAINE

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Background: Determinants of efficiency of the supply of PMTCT and HTC services in 4 countries in Africa: results of Orphea project

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Background: Limited evidence on the efficiency and its determinants of HIV prevention interventions is a barrier to creating effective policy. The ORPHEA project aimed to estimate average costs per service and to identify determinants of efficiency for two HIV-prevention interventions: prevention of mother-to-child transmission (PMTCT) and HIV testing and counseling (HTC) in Kenya, Zambia, Rwanda and South Africa.

Methods: Input costs and intervention output data were collected retrospectively by month from 2011/2012 as part of the ORPHEA project. The analytical sample comprised around 180 health facilities for each intervention. We assessed the impact of determinants such as scale and labor composition, and management characteristics at the facility level such as structure and governance, staff composition and dedication, accounting and supervision, and management characteristics such as scale and labor composition, and management characteristics at the facility level such as structure and governance, staff composition and dedication, accounting and supervision, and management characteristics on the heterogeneity of PMTCT and HTC costs per service at the facility level.

Results: In each country, the scale of production and management characteristics such as staff level and specialization, and funding based on management performance, explained around 40% of the variation in unit costs. The most important factor linked to lower PMTCT unit costs was scale of production.

Conclusions: There is a large potential to increase efficiency within current financial and structural constraints of health systems. Unit-cost variation is explained by other constraints different from scale. Besides scale of production, modifiable characteristics at the health facility level related to management aspects such as supervision, staff price and specialization, labor dedication and funding based on management performance, seem to be policy variables to be addressed through interventions to improve efficiency.

TUPEE18

DETERMINANTS OF EFFICIENCY OF THE SUPPLY OF PMTCT AND HTC SERVICES IN 4 COUNTRIES IN AFRICA: RESULTS OF ORPHEA PROJECT

Tuesday 19 July
Poster Exhibition

Wednesday 20 July

Thursday 21 July

Friday 22 July

Late Breaker Posters

Author Index
Economic and Epidemiological Impact of a Public-Private Partnership: The Case of the African Comprehensive HIV/AIDS Partnership (ACHAP)

BACKGROUND: Botswana reached the height of AIDS epidemic in year 2001 with the adult HIV prevalence (15-49 years) estimated 27%, then one of the highest country prevalence figures in the world. This situation led to a novel public health initiative; a public-private partnership, ACHAP, between LMIC and the USAID. This partnership aims at improving service delivery and quality, by building capacity at the Ministry of Health level and district level. Botswana, along with its strategic partners, has implemented the CCM in the district. Team members provided feedback to clinic staff on successful practices, identified and addressed gaps, and planned strategies to improve health care delivery. The team visited another participating site to learn about changes implemented there, and subsequently shared best practices. The team also conducted a learning session with 29 participating facility workers.

RESULTS: The odds of increased CD4 in the intervention group was 3.2 times higher than the control group (p=0.022). Clinician-reported ART adherence to ART was 60% (p=0.001) more likely to be higher in the intervention group. The intervention cost $11,740 for 7,016 patients enrolled for ART care ($1.67/patient). Incremental cost-effectiveness ratios were $6.90 per additional patient with improved CD4 and $3.60 per additional ART patient with the same or better adherence.

CONCLUSIONS: This controlled, pre/post-intervention evaluation used difference-in-differences analysis controlling for confounders in three facilities in one intervention and one control district in central Botswana.

Methods: A community-based, cluster randomized controlled trial was conducted in one urban and one rural district of Botswana. Results showed the odds of increased CD4 in the intervention group was 3.2 times higher than the control group (p=0.022). Clinician-reported ART adherence to ART was 60% (p=0.001) more likely to be higher in the intervention group. The intervention cost $11,740 for 7,016 patients enrolled for ART care ($1.67/patient). Incremental cost-effectiveness ratios were $6.90 per additional patient with improved CD4 and $3.60 per additional ART patient with the same or better adherence.

Evaluating the Relative Economic Costs of Integrating Sexual and Reproductive Health, and HIV Services in Four Operational Service Delivery Modalities in Zimbabwe

BACKGROUND: Women in sub-Saharan Africa face huge socio-economic inequities due to the advances in sexual and reproductive health (SRH) service delivery. Integrating SRH and HIV services may help fulfill the Millennium Development Goals, and may also prove to be cost-effective as it reduces need for frequent health facility visits. We evaluated relative unit costs of five integrated SRH and HIV services within four PSI Zimbabwe run integration models.
Methods: Taking a provider perspective we conducted retrospective facility based costing at four purposively selected clinics integrating SRH and HIV services (PSI/Z directly-managed, PSI/Z partner-managed, Public Private Partnership (PPP), and PSI/Z directly-managed outreach). We collected economic and financial costs for 2014 and estimated cost per visit of five integrated services (HTC, TB screening, STI screening and treatment, Family Planning, and Cervical Cancer screening). We combined bottom up (quantifying each ingredient or resource component) and step down costing (step wise allocation of costs to all overhead departments and then to final cost centres) and analysed costs in 2014 constant US dollars.

Results: Unit costs for the five integrated services were lowest at the PPP clinic (Chitungwiza PROFAM) and highest at the PSI partner managed site (Mutare). Costs per visit for the five integrated SRH and HIV services ranged from US$6.22 (TB screening) at the directly-managed clinic to US$193 (Cervical-Cancer screening) at the partner-managed clinic. Costs per visit varied across the four integrated models with highest variability for STI screening and treatment (US$9.96 for PPP and US$148 for outreach). HTC showed least variability from US$32 for outreach to US$41 at Chitungwiza NSC. Main cost drivers were personnel, management and administration costs, and to a lesser extent supplies.

Conclusions: Unit cost variability, and percentage distribution of cost components suggests potential for cost reductions. Interventions that can increase demand for integrated SRH and HIV services can help achieve lower recurrent costs particularly with respect to personnel, and management and administration costs, thereby reducing unit costs. Where possible, integrated SRH and HIV service providers in Zimbabwe should negotiate lower drugs, diagnostics and supplies prices as these were an important contributor to unit costs of services.
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Background: E/C/F/TAF (elvitegravir/cobicistat/entecavir/tenofovir alafenamide) is a novel antiretroviral therapy for HIV. E/C/F/TAF has been investigated in an extensive clinical trial programme including treatment-naive, virologically suppressed, mild to moderate renal impairment and adolescent patients. In addition to high rates of efficacy in adult HIV patients (≥92% suppressed HIV-1 RNA ≤ 50 copies/mL at Week 48), E/C/F/TAF is also associated with a favourable safety profile, including fewer bone and renal off target effects versus regimens containing tenofovir disoproxil fumarate (TDF). The objective of this study was to evaluate the cost-effectiveness of E/C/F/TAF versus relevant comparators in the UK healthcare setting.

Methods: An individual patient simulation model was developed to calculate the cost and QALY impact of treatment-related adverse events and non-AIDS related comorbidities (NARCs), in conjunction with CD4 count and viral load historically. These are not typically considered by HIV cost-effectiveness models. The analysis also considered the impact of adherence, resistance and tolerability on virologic failure and treatment choice as patients moved through the modelled treatment pathway. Literature reviews and input validation were conducted to populate the model. Relative efficacy of treatment regimens was established through a systematic review and network-meta analysis. Comorbid events associated to hypertension, fracture, cardiovascular, renal, and diabetes were predicted using a set of integrated regression models, derived from the literature and the Data Collection on Adverse events of Anti-HIV Drugs (D:A:D) cohort. We utilised the model to estimate lifetime costs and QALYs for four ART regimens and their subsequent treatment pathways: E/C/F/TAF, E/C/F/TDF, DTG/ABC/3TC and R/F/TDF.

Results: Our model predicts that the mean lifetime costs associated with NARCs ranges from £6,420 for PLHIV starting on E/C/F/TAF to £9,207 for PLHIV starting on E/C/F/TDF. Mean lifetime QALY decrement associated with NARCs ranges from 0.52 for PLHIV starting on E/C/F/TDF to 0.63 for PLHIV starting on R/F/TDF. The mean costs for PLHIV who develop diabetes, CKD and CVD were £1,841, £13,952 and £973 respectively. The mean QALY decrements for the same NARCs were 0.24, 0.09 and 0.18 respectively. The additional cost and QALY loss of NARCs in PLHIV accounts for more than 15% of non-ART costs and needs to be taken into consideration when assessing ART regimens impact on patients and healthcare systems.

Conclusions: To our knowledge, this is the first HIV model to incorporate NARCs in estimates of costs and QALYs for specific ART regimens. The additional cost and QALY loss of NARCs in PLHIV accounts for more than 15% of non-ART costs and needs to be taken into consideration when assessing ART regimens impact on patients and healthcare systems.

TUPEE262

ACCOUNTING FOR NON-AIDS RELATED COMORBIDITIES (NARCS) IN AN INDIVIDUAL PATIENT SIMULATION MODEL FOR HUMAN IMMUNODEFICIENCY VIRUS (HIV): IMPACT ON COSTS AND QUALITY-ADJUSTED LIFE-YEARS

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Background: HIV affects approximately 1.2 million people across Western and Central Europe. People living with HIV (PLHIV) can remain virologically suppressed providing they adhere to their antiretroviral treatment (ART). However, PLHIV are more likely to develop NARCs such as diabetes, chronic kidney disease (CKD) and cardiovascular disease (CVD) than the general population. Our objective was to estimate the impact of NARCs associated with different ART regimens on lifetime costs and Quality-Adjusted Life-Years (QALYs).

Methods: We developed an individual patient simulation model to predict clinical and economic outcomes of ART in treatment naive patients. Patients progress through a clinically validated treatment pathway based on their previous treatments and standard of care. CD4 count, patient’s characteristics and current ART were used to predict the NARCs (hypertension, bone fracture, diabetes, CKD and CVD) using published HIV-specific risk equations mainly from the Data Collection on Adverse events of Anti-HIV Drugs (D:A:D) cohort. We utilised the model to estimate lifetime costs and QALYs for four ART regimens and their subsequent treatment pathways: E/C/F/TAF, E/C/F/TDF, DTG/ABC/3TC and R/F/TDF.

Results: Our model predicts that the proportion of PLHIV developing a NARC ranged from 58.7% for PLHIV starting on E/C/F/TAF to 61.4% for PLHIV starting on DTG/ABC/3TC. The proportion developing NARCs across treatment strategies ranged between 17.2% and 33.8%; 18.1% and 32.3%; 23.1% and 37.7% for diabetes, CKD and CVD respectively. In addition, between 15.9% and 17.7% of PLHIV developed multiple NARCs depending on their initial treatment. PLHIV starting on E/C/F/TAF developed statistically significantly fewer occurrences of CVD than PLHIV starting on either E/C/F/TDF or R/F/TDF (p<0.01).

Conclusions: To our knowledge, this is the first HIV model to incorporate NARCs in estimates of costs and QALYs for specific ART regimens. The additional cost and QALY loss of NARCs in PLHIV accounts for more than 15% of non-ART costs and needs to be taken into consideration when assessing ART regimens impact on patients and healthcare systems.
Conclusions: To our knowledge, this is the first model to predict the proportion of PLHIV developing NAs for specific ART regimens. Based on the high estimated proportions of NAs presented, with some statistically significant differences seen across treatment strategies, the impact of NAs should be incorporated when considering the long term health and economic outcomes of ART.

TUPEE628

COST-CONSEQUENCES AND HEALTH OUTCOMES OF COFORMULATED RILPIVIRINE, EMTRICITABINE AND TENOFOVIR ALAFENAMIDE (R/F/TAF), A NOVEL ORAL SINGLE-TABLET REGIMEN IN HIV PATIENTS IN THE UNITED STATES

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Background: Highly effective antiretroviral (ARV) therapies have transformed treatment of HIV from acute to long-term chronic-care. HIV patients are living longer and treated earlier. With increasing age, comorbidities such as chronic kidney disease (CKD) and cardiovascular disease (CVD) are increasing. R/F/TAF, a novel ARV, has demonstrated bioequivalence to the components of coformulated rilpivirine, emtricitabine, and tenofovir alafenamide, with potentially improved renal, CVD, and bone safety profiles. Objective is to estimate health outcomes associated with R/F/TAF in treatment-naïve (TN) and virally suppressed treatment-experienced (TE) HIV patients compared to selected TDF and abacavir (ABC) containing regimens.

Methods: A cost-consequence analyses (CCA) was developed using an event simulation framework; the framework considers patients’ conditions and events impacting these conditions. Inputs were drawn from published randomized controlled trials, the peer-reviewed literature, and real-world database analyses. Model structure, assumptions, and inputs were validated by a panel of experts in HIV, nephrology, CVD, endocrinology and skeletal abnormalities. The analysis compared R/F/TAF to R/F/TDF, F/TDF+dolutegravir (DTG), and efavirenz/F/TDF (CKD outcomes) and to DTG/ABC/3TC (CVD outcomes). The model assessed time horizons of 1-5 years.

Results: Table 1 summarizes the 5-year events predicted for a simulated cohort of 1000 US insured patients. Compared to regimens with TDF backbones, R/F/TAF significantly reduced the number of patients predicted to progress to CKD-III. Additionally, patients treated with R/F/TAF are predicted to experience significantly reduced CVD events compared to those treated with DTG/ABC/3TC.

As a result, the proportion switching from first line was reduced, and time to first switch increased for patients treated with R/F/TAF compared to all comparators. This resulted in less total treatment failure that was observed in later lines of therapy.

Results were similar in TN and TE patients and were robust under various sensitivity analyses.

TUPEE630

COMBINATION PREVENTION: WHAT WORKS IN HUMANITARIAN SETTINGS - A NEEDS ASSESSMENT FOR CHILDREN AND ADOLESCENTS IN KAKUMA REFUGEE CAMP IN KENYA

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Background: This paper highlights the needs of children and adolescents living with HIV/AIDS in Kakuma refugee camp in Turkana County, Kenya, which for hosts 288, 453 refugees, majority being < 18 years old. The camp’s location, interaction of refugees and host community, low literacy levels and poverty pose a great risk to its population, particularly adolescents to HIV/AIDS. Turkana County has one of the highest prevalence of HIV at 7.6%.

Methods: This is a qualitative study, conducted from four health facilities, exploring key components of quality of health care for children and adolescents from the perspectives of health providers and guardians: prevention of mother to child transmission, quality of pediatric care, adolescent health literacy, community support, appropriate package of service, provider competencies, facility characteristcs, equity and non-discrimination, data and quality improvement, and adolescent participant. 14 key informants were interviewed. 6 focus group discussions were held at Kakuma refugee camp and host community. Direct observations were conducted at health facilities. Purposive sampling was employed.

Results: Referral chain for pregnant mothers throughout the period of their pregnancy existed. Community health workers acted as linkages between peer mother networks and pregnant mothers, including those living with HIV. This ensured that

Table 1: Health Outcomes Results

Conclusions: R/F/TAF is estimated to reduce comorbid events, increase first line persistence, reduce switching to second line and salvage therapies, and improve patient health outcomes.
the child’s progress up to their transition to adolescence was adequately monitored. The structures of the health facilities were dilapidated, compromising confidential-ity and privacy of patients. There was lack of active channels of information provi-sion. Condoms were distributed on a need basis or at designated areas without requi-site training on correct and consistent use. Service providers were not sufficiently trained to cater specifically for children and adolescents’ sexual and reproductive health needs. There was little evidence of adolescent participation in programming. **Conclusions:** Combination prevention in humanitarian situations needs to be con-textual. In Kakuma, the underlying issues are poverty and low literacy levels. A peer approach which is successful for the case of mothers can be applied to adolescents throughout the implementation of evidence-based behavioral interventions to cir-cumvent the low literacy levels. In addition, community health workers and incentive-workers can be trained to supplement the health workers in the facility and carry out outreach programmes.

**TUPEE631**

**IMPLICATION OF SAME SEX MARRIAGE ACT 2013 ON HIV EPIDEMIC AMONG MEN WHO HAVE SEX WITH MEN IN NIGERIA**

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**Background:** The same-sex marriage (prohibition) Act 2013 of Nigeria stipulates a jail term of 14-years-imprisonment for same-sex marriage-contract and 10-years-imprisonment for operating a gay-club, societies and organization or supporting and sustaining such organizations. The implication of this on the health and well-be-ing of Men-who-have-sex-with-men (MSM) has not been documented. Society-for-Family-Health, a foremost-Non-Governmental-Organization implementing a Global Fund-United States-Government-funded programme for key-populations (KPs) in Nigeria constituted a team to determine the effect of the Act on programming for MSM and the critical HIV-Indicators like HIV-Testing-Services-uptake, HIV-Preval-ence, Condom-use and STI-treatment among MSMs.

**Description:** A desk-review of available-national-data was carried out using the Inte-grated-Biological-and-Behavioral-Surveillance-Survey (IBBSS) 2007, 2010 and 2014 and programme-reports. The survey-data covered the whole country for all KPs and the programme reports were for selected States with emphasis-on-the-MSMs.

**Lessons learned:** The programme-report showed that peer-education-sessions-with-MSM were held in small-cohorts at high-cost because of the fear of harassment-by-the-security-forces. The review of the survey revealed that there had been a-consistent-decline in the prevalence-of-HIV among the brothel-based Female-Sex-Workers (BFWS), People-who-inject-drugs (PWID) from 2007 to 2014. In stark contrast, HIV-prevalence among MSM has steadily-risen from 13.5% in 2007 to 22.9% in 2014 as shown in figure 1.

**LESSONS LEARNED FOR HIV IN THE CONTEXT OF THE MILLENNIUM DEVELOPMENT GOALS (MDGs)**

**TUPEE632**

**EDCTP AS A MODEL FOR EUROPE-AFRICA PARTNERSHIP ON HIV/AIDS RESEARCH: ACHIEVEMENTS AND FUTURE DIRECTIONS**


European & Developing Countries Clinical Trial Partnership (EDCTP), The Hague, Netherlands

**Background:** The goals of the European & Developing Countries Clinical Trials Part-nership (EDCTP) are to support collaborative research that accelerates the clinical development of new or improved interventions (drugs, vaccines, diagnostics) to prevent or treat HIV/AIDS, tuberculosis (TB), malaria and other poverty-related and neglected infectious diseases (PRDs) and to promote capacity building and networking in sub-Saharan Africa (SSA).

**Description:** EDCTP was established to pool resources and provide a research coop-eration platform for HIV, malaria and TB between European/SSA countries. Under EDCTP1 (2003-2015) 254 grants (208 ME) were awarded; 68 on HIV and HIV/TB (68.5 M; 32.9%), including 30 HIV trials (17 drug, 3 microbiocide, 8 vaccine, and 2 on e-devices) and 9 HIV/TB co-infection trials. The 68 grants involved collaboration between 67 institutions from 13 European countries and 88 institutions from 24 African countries.

**Lessons learned:** EDCTP trials influenced national/international policies through adult/paediatric/adolescent and HIV/TB co-infection treatment trials, including initi-tion studies and pharmacogenomics. The CHAPAS-1 trial supported FDA approval and registration of a paediatric ARV formulation (Pedimune) in SSA. The PROMISE PreP study recommended prophylaxis is administered to children breastfeeding from untreated HIV-positive mothers to minimise transmission risk.

**Conclusions/Next steps:** EDCTP-funded trials have contributed to the progress to-wards the Millennium Development Goals, HIV global health policy and strength-ened clinical research capacity in Africa. EDCTP will continue supporting trials, clini-cal capacity building and networking, in collaboration with global health initiatives and funders. EDCTP2 (2014-2024) will receive €683 million from the European Union and matching funding from European Participating States. The ~ €1.3bn bud-get will support phase I/IV clinical trials in SSA and contribute towards achieving the Sustainable Development Goals. EDCTP2 also aims to: promote greater alignment and coordination of national research programmes on PRDs; increase financial con-triubutions from developing countries; and leverag e cofunding from public/private sources. African nations can now become EDCTP members, providing a strong and equal European-African partnership. EDCTP2 calls for proposals are broad, aiming to address research areas of importance to SSA not already funded. To date, calls have covered diagnostics, treatment and research capacity development, with fu-ture calls expected to address gaps in treatment/ prevention of HIV/AIDS and other PRDs in SSA.

**TUPEE633**

**LESSONS LEARNED FROM IMPLEMENTATION OF OPTION B+ IN LESOTHO WILL INFORM ROLL-OUT OF TEST AND TREAT**

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**Background:** At 23%, Lesotho has the second highest adult HIV prevalence in the world and 57% of HIV-infected adults are women. Coverage of adult and pediat-ric antiretroviral treatment (ART) remains low at 35% and 30%, respectively. The country adopted World Health Organization Option B+ guidelines in April 2013, and countrywide coverage was complete by Q1 of 2014. Lesotho is set to adopt new test and treat guidelines early in 2016. Implementation of Option B+ will inform implementation of these new guidelines.

**Description:** The Elizabeth Glaser Pediatrics AIDS Foundation (EGPAF) is a leading clinical partner supporting the Ministry of Health in Lesotho and supported roll out of Option B+ guidelines countrywide. Routine programmatic data were collected
from all antenatal facilities to inform progress. After one year of Option B+ implementa-
tion, a cross-sectional review of routine prevention of mother-to-child HIV trans-
mission program data from 17 high volume sites was done to analyze the pro-
portion of women remaining alive and on ART at three, six, and 12-months after Op-
tion B+/ART initiation and to assess rates of early mother-to-child HIV trans-
mission (MTCT) at six weeks, 14 weeks, and 9-12 months postpartum.

Lessons learned: Rapid adaptation resulted in successful, rapid countrywide scale-
up of Option B+ and increased enrollment of pregnant women on ART from 11% in
Q1 of 2013 to 94% in Q1 of 2014. Retention rates for women initiating Option B+ for
their health were higher at 12 months compared those initiating Option B+ for pre-
vention (81% versus 76%, respectively). Overall MTCT rates were low (2.5%) at nine
months, but lower for women enrolled in Option B+ for their own health compared
to women enrolled in Option B+ for prevention of transmission (1% versus 2.9%).

Conclusions/Next steps: Lesotho demonstrated capability for rapid (<1 year) scale-
up of Option B+ and high acceptability of lifelong treatment initiation among preg-
nant and breastfeeding women regardless of their disease status. This enrollment
success provides the impetus for the national rollout of test and treat. However,
improved adherence and retention are needed and will require development of
enhanced messaging for both healthcare providers and for patients regarding the
rationale and benefits of universal ART.

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**SCALE UP OF PAEDIATRIC DIAGNOSIS**

**TUPEE35**

**SIX YEARS OF EARLY INFANT DIAGNOSIS IN HAITI, CONSOLIDATING THE PROGRAM TO SUPPORT ELIMINATION OF MOTHER TO CHILD TRANSMISSION EFFORTS (2009-2014)**

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**Background:** Dried blood spot HIV DNA PCR is a key component of PMTCT strategy.
The Haitian National EID program started in September 2009. The rate of transmis-
sion has fallen from 26.3% in 2009 to 5.1% in 2014. The number of sites with EID
capacity has grown from 25 in 2009 to 120 in 2014. This covers the majority of the
Haitian population.

**Description:** The EID program is a partnership between the Haitian Ministry of
Health, PEFPAR, The National Laboratory, Geskio and other NGOs. The Caris Found-
dation is responsible for the training, specimen collection, result delivery and follow
up of HIV positive infants identified.

From 1st September 2009 - 31st December 2194, 9886 infants were tested. This
represents 85% of HIV positive pregnant women who were identified nationally for
the same period. The median age of 1st PCR test has fallen from 12 weeks in 2009 to
8 weeks in 2014. The median turnaround time, from blood draw to return of PCR
test result to health provider was 23.0 days. Median time for laboratory testing was 7.3
days and median delivery of PCR result from the lab to health providers was 1.0 day
after an automated electronic system. 100% of results were returned to health
providers.

Of the 736 identified as HIV positive, 733 (99.6%) were enrolled into clinical care
(defined as returning for at least 1 clinical appointment after testing) and 558
(75.8%) were started on ART.

**Lessons learned:** Scaling up the EID program has been successful and led to national
coverage over 6 years. The testing processes have been merged with clinical follow
up of children identified as positive. This has led to the possibility of reporting on
clinical outcomes and improved the number of children started on ARTs. Electronic
automation of result delivery and specimen processing has led to decreases in turn-
around.

**Conclusions/Next steps:** The EID program needs to drive the elimination campaign
in terms of targeting mother-child pairs to receive optimal PMTCT interventions.
Further integration between PCR testing and follow up of HIV positive infants will
improve the number of children initiated on ARTs and could reduce mortality.

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**CHALLENGES AND OPPORTUNITIES FOR HIV IN THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)**

**TUPEE364**

**PATENTS, PUBLIC HEALTH AND THE SDGS: ARE LEAST DEVELOPED COUNTRIES (LDCS) MAKING FULL USE OF PUBLIC HEALTH SAFEGUARDS UNDER WTO’S TRIPS AGREEMENT TO ENSURE SUSTAINABLE ACCESS TO AFFORDABLE GENERIC MEDICINES?**

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**Background:** For ensuring health lives, SDG 3 specifically calls for use of the Doha
Declaration. Developing country experience shows TRIPS flexibilities must be in-
corporated to the fullest to ensure access to affordable medicines through
import/local production. For the world’s poorest countries, two recent hard won
victories at the WTO have given them till 2021 for TRIPS compliance & till 2033 to
enforce/grant pharmaceutical patents putting them in an ideal position to heed the
calling of the SDGs.

**Methods:** To determine whether LDCs are in fact making use of the transition peri-
od and TRIPS flexibilities, the study:
- (a) compiled &analysed LDC patent laws to determine coherence with public health
objectives;
- (b) identified potential impact on access to medicines due to early TRIPS compli-
ance/non-inclusion of TRIPS flexibilities;
- (c) proposed recommendations for law/policy makers.

**Results:** Despite the 2021 transition period, most LDCs appear to have complied
with TRIPS including African LDCs who are members of OAPI. Afghanistan, Bangla-
desh, DRC, Madagascar, Myanmar & Nepal are considering Bills for early TRIPS com-
pliance. Importantly, Cambodia, Burundi, Madagascar, Uganda, Rwanda & Zanzibar
are making use of the pharmaceuticals transition period. The incorporation of TRIPS
flexibilities in LDC laws is varied. For instance:
- (a) only Zanzibar, Samoa, Burundi, Rwanda have safeguards against patent ever-
greening;
- (b) for parallel imports, 11 LDCs have national & 13 have regional exhaustion limit
- (c) OAPI, Yemen, Mozambique, Cambodia, Angola, CapeVerde, Madagascar, Leso-
tho, SouthSudan, Rwanda & SierraLeone criminalise patent criminalisation that has
a chilling effect on generic production/import. LDCs in WTO accession or FTA nego-
tiations face TRIPS-plus demands. Positive attempts at including TRIPS flexibilities;
- (b) identified potential impact on access to medicines due to early TRIPS compli-
ance/non-inclusion of TRIPS flexibilities;
- (c) proposed recommendations for law/policy makers.

**Conclusions:** Hands-on analysis of patent law & policy from 17 high volume sites
was done to analyze the potential barriers to achieving TRIPSplus demands. Positive
approaches at including TRIPS flexibilities were observed in the East African Commun-
ity LDC members.

**Conclusions:** LDCs have already used Doha Declaration/TRIPS flexibilities for access
to ARTs. Facing disproportionate impact of NCDs (cancer incidence: 82% in
2030), such measures will be increasingly important as the TRIPS transition period
ends, countries graduate LDC status & financial aid decreases. For local/regional
budgets, a chilling effect on generic production/import. LDCs in WTO accession or FTA
negotiations face TRIPS-plus demands. Positive approaches at including TRIPS flexi-
bilities were observed in the East African Community LDC members.

**Author Index**

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**SCALE-UP OF HIV SELF-TESTING**

**TUPEE365**

**CAN ‘LATE-READ’ OF SELF-TEST DEVICES BE USED AS A QUALITY ASSURANCE MEASURE? RESULTS OF A PILOT HIV SELF-TEST PROJECT IN ZIMBABWE**

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**Background:** HIV self-testing (HIVST) may increase testing uptake. Critical to success
is HIVST accuracy and quality assurance (QA). We evaluated the potential for ‘late-
read’ of self-test devices as a QA measure.

**Methods:** We conducted supervised self-testing of Oraquick rapid tests, where par-
ticipants self-tested, and recorded their result, followed by confirmatory testing.
Self-test devices were immediately read by study staff. Between 2-6 months after
testing, we late read test devices and compared with real-time results to assess
late-read validity. We subsequently conducted a HIVST observational study. 695 par-
ticipants opting to self-test were asked to anonymously return their used test device
along with a self-administered questionnaire (SAQ) reporting their test result to a
drop box in their community, and participated in a post-test telephone survey. Test
devices were collected weekly, late read, and compared to self-reported results.

**Results:** 201 supervised self-tests were included in the late-read validation study. 9
(4%) tests had failed test lines at the time of late-read. Results are in Table 1.
ADHERENCE TO ANTIRETROVIRAL THERAPY, INCLUDING WHEN USED AS PREVENTION OR FOR CHEMOPROPHYLAXIS

TUPE0637
BARRIERS TO ANTIRETROVIRAL TREATMENT ADHERENCE IN HIV-INFECTED LONG-TERM TREATED ADOLESCENTS AND ADULTS IN UGANDA

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Background: Long-term success of antiretroviral therapy for HIV requires near-perfect adherence, maintained throughout one’s lifetime. However perception and patterns of adherence may change during the life course. We assessed challenges to long-term adherence in adolescents and adults in three HIV treatment regional centers in Uganda.

Methods: We conducted 24 in-depth interviews and 2 focus group discussions with a total of 33 health-care providers and expert clients. Interview topics included experiences with patients on long-term treatment with either declining or persistent non-adherence. Transcribed texts were coded and analyzed based on the social-ecological framework.

Results: Common themes to adults and adolescents were challenges with disclosure in intimate relationships, side effects upon treatment switch, erratic supply of drugs and change of brands with unfavorable taste. In adolescents main themes included lack of family and clinical support including facilitating caretakers for early and progressive disclosure of HIV status prior to adolescence, transitioning to adult-based care and declining peer-to-peer support groups. In addition there was also experimentation with treatment holidays, perceived discrimination and experienced stigma in boarding schools. In adults, temporary economic migrants had poor appointment keeping citing lack of transport, premise for being healthy; hence prioritizing business to drug refills, political conflicts hindering their travel and reluctance to transfer out to nearby facilities.

Conclusions: Adherence counseling and support should be adaptive to different life stages and to the emerging life course challenges in long-term treated patients, and should be supported by sufficient well-trained counselors and appropriate supportive guidelines. Moreover, programs should also address constraints experienced by temporary economic migrants to ensure continuity of treatment within the host country.
Wednesday 20 July

ORAL ABSTRACT SESSIONS

WEAA01 ACUTE HIV INFECTION: THE BATTLE BEGINS

WEAA0101 TH17 CELLS ARE PREFERENTIALLY INFECTED IN THE FIRST 48 HOURS AFTER VAGINAL TRANSMISSION OF SIVmac239 IN MACAQUES

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Background: Macaque vaginal challenge with SIV is utilized to reproduce the circumstances of male-to-female HIV transmission. This model has provided insights into HIV vaginal transmission, but the critical window of the earliest events taking place after mucosal exposure remains undefined.

Methods: We have recently developed a SIV-based dual reporter expression vector that facilitates the efficient identification of transmission susceptible sites in the rhesus macaque FRT after vaginal exposure. This system demonstrated that initial infection events can be widespread throughout the female reproductive tract (FRT), highlighting the role of their localization, and that TH17 cells are the primary target in initial infection. Because this system efficiently identifies regions of susceptibility to infection in the FRT, we have determined that we can identify small foci of SIVmac239 infection 48 hours after vaginal challenge with a mixture of wildtype SIVmac239 and the L1Ch dual reporter. Utilizing this novel approach to SIV challenge, we routinely identify SIVmac239 infected cells revealing their localization and fates in the FRT 48 hours after vaginal challenge.

Results: Foci of infection with SIVmac239 are found throughout the female reproductive tract, from labia to ovary. We find that TH17 cells are the major targets, and there is a strong bias for those with a TH17 phenotype. Infection of immature dendritic cells and macrophages is also observed representing approximately 25% of infected cells. 48 hours post inoculation, we find host responses to infection, evidenced by apoptosis, cell lysis, and phagocytosis of infected cells. RNA-Seq profiling of gene expression in tissues where SIV infection was established indicate that inflammatory responses and epithelial repair processes are occurring.

Conclusions: Defining the location and phenotype of SIV infected cell foci and early host responses informs the development of interventions designed to decrease HIV acquisition. Preferential infection of TH17 cells could explain the known conditions that increase HIV acquisition, including sexually transmitted infections and bacterial vaginosis. How these conditions precisely influence mucosal barrier function or the density of target cells remains to be determined. However, the system presented here provides essential sampling of these foci, facilitating characterization of the earliest host responses to SIV/HIV infection.

WEAA0102 EFFECT OF INJECTABLE HORMONAL CONTRACEPTIVES ON VAGINAL EPITHELIUM THICKNESS AND GENITAL HIV TARGET CELL DENSITY IN WOMEN RECENTLY INFECTED WITH HIV

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Background: Vaginal epithelial thinning and/or increased density of mucosal HIV-1 target cells are possible mechanisms by which injectable hormonal contraceptives (HCs) may increase risk for HIV-1 infection in HIV-1 negative women and the risk of her transmitting to her partner if infected. Here, the influence of injectable HCs on genital epithelial thickness, mucosal HIV-1 target cell density and depth in women with acute HIV infection was investigated.

Methods: CD4+ T cell and CD68+ macrophage density, both target cells for HIV infection, was measured by immunofluorescent staining in vaginal tissue biopsies from acutely-infected women who were either using injectable HCs or not using contraception. Concentrations of 48 cytokines measured in cervico-vaginal lavage (CVL). Blood CD4 counts and plasma viral loads were performed during acute infection and 12 months post-infection.

Results: Vaginal epithelial thickness was similar in women using injectable HCs compared to non-injecting HC users. The frequency of CD4+ T cells in the vaginal squamous epithelium of injectable HC users was significantly higher than non-injectable HC users (p=0.028). CD68+ macrophage cell density did not differ between women using injectable HCs and those not using injectable HCs, although macrophages were closer to the vaginal luminal surface in injectable HC users than those not using HCs (p=0.021). Furthermore, the frequency of mucosal CD68+ macrophages during the acute infection were positively associated with the concentration of the RANTES (beta coefficient (β)=0.779, p=0.0124), MCP-1 (β=0.453, p=0.0141), IP-10 (β=0.568, p=0.0422), IL-7 (β=1.332, p=0.0198), IL-9 (β=0.336, p=0.015), and IL-17 (β=1.058, p<0.007) in CVL, after adjusting for multiple comparisons.

Conclusions: Women using injectable HC users had increased frequencies of CD4+ T cells in their vaginal stratified epithelium than those not using injectable HCs. CD68+ macrophages correlated with a broad panel of mucosal cytokines. This study provides valuable insight into possible underlying mechanisms by which genital inflammation may increase HIV-1 risk and subsequent clinical phenotypes during HIV-1 disease course, such as viral set point.
WEAA0104

EARLY TREATMENT OF HYPERACUTE HIV INFECTION IMPACTS PHENOTYPE AND CLONAL REPETITION OF HIV-SPECIFIC CD8 T CELLS

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Background: Although natural immunity in some cases can lead to prolonged HIV suppression, it does not completely eliminate the virus. Consequently most of what we know regarding the nature of HIV-specific responses is based on inadequate responses generated in the setting of high levels of persistent plasma viremia and marked CD4 cell decline in acute infection. We investigated the impact of antigen withdrawal through very early treatment of hyperacute infection on the functional qualities of HIV-specific CD8 T cell responses.

Methods: 10 subjects who initiated ART in Fiebig stage 1 and 12 subjects with untreated hyperacute HIV infection (UTx) were studied. We conducted a comparative longitudinal analysis of the clonality, phenotype and functional profile of HIV-specific CD8 T cell responses generated during treated and untreated hyperacute infection. HIV-specific CD8 T cells were measured using MHC class I tetramers. T cell receptors (TCR) were sequenced from tetramer sorted CD8 T cells.

Results: In spite of rapid plasma virus suppression and blunted peak viremia, HIV-specific CD8 T cell responses were detected in >70% of subjects. TCR analysis of tetramer+ CD8 T cells revealed striking clonal stability over time whereas UTx responses were characterized by successive waves of clonal loss and re-emergence of new clonotypes from ETx.

Conclusions: Characterisation of effector cells account for 90% of the response (mean) CD127+ expression, a marker associated with the development of long term memory, compared to untreated subjects (p=0.0001). TCR responses were more fully differentiated with terminal deoxynucleotidyl transferase cell death accounts for 90% of the responses (p=0.0001) whereas untreated responses were less differentiated, with effector cell responses for 90% of the response (p=0.0001). Combined tetramer ICS staining of 2 ETx had >70% tetramer+ cells secreting IFN-g compared to <20% in UTx. Furthermore, longitudinal TCR analysis of tetramer sorted cells obtained from ETx revealed striking clonal stability over time whereas UTx responses were characterized by successive waves of clonal loss and emergency of new clonotypes over time.

Conclusions: We show that very early ART is associated with measurable CD8 T cell responses that are phenotypically and functionally superior to untreated hyperacute HIV infection. Our data suggest that prompt curtailment of HIV replication result in more functionally competent immune responses with potential for long-term survival.

WEAA0106B

EXHAUSTION OF ACTIVATED CD8 T CELLS PREDICTS DISEASE PROGRESSION IN PRIMARY HIV-1 INFECTION

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BACKGROUND: It is associated with clinical progression, and may be impacted by immune activation and disease progression. Here we aimed to determine whether CD8 T cell immunologic markers point markers PD-1, Lag-3 and TIM-3 are associated with immune activation and disease progression.

Methods: We evaluated participants (n=122) with primary HIV infection (PHI) randomised to receive short-course ART, or no therapy, in the SPARC trial. Expression of CD8 PD-1, TIM-3, Lag-3 and CD38 on CD8 T cells from the closest pre-therapy time-point to seroconversion was measured by flow cytometry, and correlated with surrogate markers of HIV disease (HIV-1 plasma viral load [pVL] and CD4 T cell count) and the trial endpoint (time to CD4 count < 350 cells/µl or initiation of long-term antiretroviral therapy). To explore the functional significance of these markers, we describe outcomes of Eomes, T-bet and CD39 was assessed.

Results: Expression of PD-1 on bulk and CD38 CD8 T cells correlated with pVL and CD4 count, and predicted the trial endpoint. Lag-3 expression was associated with pVL but not CD4 count. For all exhaustion markers, expression on CD38 CD8 T cells increased the strength of the associations. In Cox models, progression to the trial endpoint was most marked for PD-1/CD38 co-expressing cells, with evidence for a stronger effect within 12 weeks from seroconversion. The effect of PD-1 and Lag-3 expression on CD8 T cells retained statistical significance in Cox proportional hazards models including antiretroviral therapy and CD4 count as co-variants (HR 1.76; p=0.047 and HR 1.46; p=0.024 respectively). In a cohort of similar individuals with untreated PHI we demonstrated strong associations of PD-1 and Lag-3 with the T-bet+/Eomes+ CD8 T cell population and CD39 expression, suggesting the expression of these markers during PHI represents functional exhaustion.

Conclusions: Expression of ‘exhaustion’ or ‘immune checkpoint’ markers in early HIV infection is associated with clinical progression, and may be impacted by immune activation and timing of therapy. New markers to identify exhausted T cells and novel interventions to reverse exhaustion may inform the development of new immunotherapeutic approaches.
WEAB0101 ACCEPTABILITY OF EARLY HIV TREATMENT AMONG SOUTH AFRICAN WOMEN

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Background: WHO guidelines recommend immediate initiation of antiretroviral therapy (ART) for all individuals at HIV diagnosis regardless of CD4 count. There is a concern among some health care providers that there will be low uptake and/or poor adherence for ART in patients who are well and have high CD4 counts, but there is little data on uptake of earlier ART in resource-poor settings. This study assessed the acceptability of earlier treatment among HIV-positive South African women in a 10-year prospective cohort study (CAPRISA 002).

Methods: CD4 count and HIV viral load were measured 3-monthly from acute infection until five years post-ART initiation for CAPRISA 002 participants. Acceptability of earlier ART initiation was assessed by (i) describing temporal trends of CD4 count at initiation in relation to WHO guidance, (ii) virological suppression rates post-ART initiation at different CD4 count thresholds, and (iii) administration of a standardized questionnaire.

Results: A total of 170/232 (73.3%) CAPRISA002 participants had initiated ART between January 2006 and December 2015. Mean CD4 count at initiation was 216 cells/µl [standard deviation (SD) 73.0; range 135-372] before 2010, and substantial improvement in CD4 count at initiation until five years post-ART initiation for CAPRISA 002 participants. Acceptability of earlier ART initiation was assessed by (i) describing temporal trends of CD4 count at initiation in relation to WHO guidance, (ii) virological suppression rates post-ART initiation at different CD4 count thresholds, and (iii) administration of a standardized questionnaire.

Conclusions: The results highlight the importance of strengthening retention and monitoring efforts for postpartum women to sustain the benefits of the PMTCT program.

WEAB0102 TIMING OF PREGNANCY AMONG HIV-POSITIVE WOMEN, POSTPARTUM RETENTION AND RISK OF VIROLGIC FAILURE

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Background: The wide implementation of the PMTCT Option B+ approach in South Africa warrants a closer examination of postpartum antiretroviral therapy (ART) outcomes. In this study we examine the association between timing of the first pregnancy with the risk and predictors of postpartum ART failure and disengagement from HIV care in South Africa.

Methods: This is a retrospective cohort study of 5780 HIV positive women 15 to 49 years of age, initiated on ART between 2004 and September 2014 in Johannesburg, South Africa. The incidence and predictors of ART failure (two consecutive viral load>1000 copies/ml) and loss to follow up (LTFU, >3 months late for a scheduled visit) during 24 months post-delivery/equivalent time were assessed using Cox proportional hazards modelling.

Results: Compared to non-pregnant women (Rate 5.6 per 100PY), women were more likely to be LTFU after a prevalent (Rate 13.7 per 100PY; HR 8.2, 95%CI: 6.3-10.6) or an incident pregnancy (Rate 10.1 per 100PY; HR 5.0, 95%CI: 4.0-6.2). The risks of ART failure following an incident pregnancy (Rate 5.9 per 100PY; HR 2.2, 95% CI: 1.6 - 2.9) and in the risk of the non-pregnant group (Rate 7.6 per 100PY; HR 1.9, 95% CI: 1.4 - 2.6) were higher than the risk after a prevalent pregnancy (Rate 4.9 per 100PY). Predictors of postpartum ART failure were being married at the time of their first pregnancy (HR 2.5, 95% CI: 1.8-3.5), and in the risk in the non-pregnant group (Rate 7.6 per 100PY; HR 1.9, 95% CI: 1.4 - 2.6) and meeting the definition for LTFU (HR 1.4, 95%CI: 1.1-1.9). When stratified by CD4 count, among women with low CD4 (< 350) at delivery, the hazard of failure in the incident pregnancy group remained higher than in the prevalent pregnancy group (HR 1.8-3.5).

Conclusions: Risk of HIV treatment failure remains high among postpartum women, particularly those who conceive while on ART. The results highlight the importance of strengthening retention and monitoring efforts for postpartum women to sustain the benefits of the PMTCT program.
WEAB0104
HIGH PROPORTION OF DEATHS ATTRIBUTABLE TO HIV AMONG POST-PARTUM WOMEN IN BOTSWANA DESPITE WIDESPREAD UPTAKE OF ART

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We reviewed the cause of death and antiretroviral treatment (ART) use among 298 women who died within 24 months of pregnancy. Despite widespread ART use in pregnancy, 61.9% of women were ART-naive when they died, with a range of 20% among the highest ART users. ART use varied by province, with 68% in western Botswana and 36% in eastern Botswana. Despite high ART use, 56% of deaths were attributed to HIV, while 44% were not. In a Cox model adjusting for ART use, HIV-infected women were 5x more likely to die than HIV-uninfected women (HR 5.0, 95% CI 2.0, 12.9, p<0.001), while those not using ART were 11x more likely to die (HR 11.0, 95% CI 2.6, 47.8, p<0.001). Maternal age, CD4 count at enrollment and whether ART was continued postpartum were associated with increased risk of mortality. These findings highlight the need for increased ART use in Botswana to reduce maternal deaths.

Background: Mortality in the post-partum period may be impacted by antiretroviral treatment (ART) received in pregnancy, and whether ART is continued in the post-partum period.

Methods: HIV-infected and HIV-uninfected mothers were enrolled within 48 hours of delivery at 5 public hospital maternity wards throughout Botswana. Follow up visits were conducted by cellphone at 1 and 3 months, then every 3 months until 24 months post-partum. Maternal deaths were reported by one of the approved contacts given by the mother at enrollment. Risk factors for maternal survival were assessed using Cox proportional hazard models.

Results: Between February 2012 and March 2013, 3000 mothers (1499 HIV-infected and 1501 HIV-uninfected) were enrolled. There were 26 total maternal deaths in 24 months post-partum. Maternal deaths were reported by one of the approved contacts given by the mother at enrollment. Risk factors for maternal survival were assessed using Cox proportional hazard models.

Conclusions: Despite high uptake of 3-drug ART in pregnancy and post-partum, HIV-infected women were 5 times more likely than HIV-uninfected women to die within 24 months after delivery, independent of CD4 cell count. Further research is needed to understand the increased risk of mortality among HIV-infected post-partum women.

WEAB0105
BIRTH WEIGHT AND PRETERM DELIVERY OUTCOMES OF PERINATALLY VS. NON-PERINATALLY HIV-INFECTED PREGNANT WOMEN IN THE U.S.: RESULTS FROM THE PHACS SMARTT STUDY AND IMPAACT P1025 PROTOCOL

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We compared birth weight (BW) and preterm delivery (PTD) outcomes of PHIV versus nPHIV pregnant women enrolled in the PHACS Surveillance Monitoring for ART Toxicities Study (SMARTT) or IMPAACT P1025 protocol.  Women were 13-30 years old. Infants were HIV-uninfected singleton liveborns. Maternal PHIV status was identified by self-report, medical record review, or HIV infection documented within 5 years of birth. BW z-scores (BWZ) and small-for-gestational-age (SGA) were calculated using U.S. standards. Mixed effects models were applied to assess the association of maternal PHIV status with infant BWZ; log binomial models using generalized estimating equations were fit for PTD (delivery at < 37 weeks) and SGA outcomes.

Results: From 1998-2013, 2,270 HIV-infected pregnant women delivered 2,692 newborns (270 born to PHIV and 2,422 to nPHIV women). Compared to nPHIV women, PHIV women were younger (mean age 21 vs. 25 years, p<0.01) and less often Black (55% vs. 67%, p<0.01). PHIV women were more likely to have a CD4 count < 200 cells/mm³ during pregnancy (19% vs. 11%, p<0.01), delivery HIV RNA level >400 copies/ml (28% vs. 23%, p<0.01), receipt of ≥3-class ART during pregnancy (23% vs. 2%), p<0.01), and pre-pregnancy body mass index (BMI) < 18.5 kg/m² (6% vs. 3%, p< 0.01). PHIV were less likely to report tobacco (14% vs. 20%, p<0.01) and substance use (1.7% vs. 3%, p<0.01) during pregnancy. After adjustment, BWZ was 0.13 lower in infants of PHIV vs. nPHIV women (adjusted mean: -0.46 vs. -0.33, p<0.003). Black race, tobacco and substance use in pregnancy, and maternal pre-pregnancy BMI < 18.5 kg/m² were also significantly associated with lower infant BWZ. No associations between maternal PHIV status and PTD or SGA were observed.

Conclusions: Infants of PHIV versus nPHIV women may be at greater risk for lower BW, although the absolute difference was small. Future studies are warranted to understand mechanisms by which the intrauterine environment of PHIV women may affect fetal growth.
WEBA021

DAILY IS BETTER THAN THREE-WEEKLY ANTI-TUBERCULOSIS THERAPY IN HIV PATIENTS WITH CULTURE CONFIRMED PULMONARY TB: A RANDOMISED CONTROLLED CLINICAL TRIAL FROM SOUTH INDIA


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Abstract: Benefit of daily over thrice-weekly anti-tuberculosis therapy (ATT) is unclear.

Methods: Efficacy comparison (first head to head) of three ATT regimens of 6 months administered daily (A: ZEHZ=4HR7), part daily (B: ZEHZ=4HR3) or thrice weekly (C: ZEHZ=HR3), in HIV+ TB. An open label randomised clinical trial at the National Institute for Research in Tuberculosis, India, enrolled HIV infected treatment-naïve confirmed TB patients (sputum smear or Xpert-MTB Positive). Clinical evaluation, two sputa smears for Acid Fast Bacillus and culture including drug susceptibility testing (Lowenstein Jensen medium) was done at baseline and monthly for 18 months. CD4 count, HIV viral load, liver and renal function tests, and Chest X-ray were performed at 0, 2, 6, 12 and 18 months. Block randomisation, stratified by sputum smear grading (0, 1+) or (2+) and CD4 count (<150 or >150), was performed and participants allocated to fully supervised ATT regimens A, B and C. ART initiation was within 8 weeks of starting ATT. Pre-treatment rifampicin- sensitive cases were analysed. Primary outcomes were failures and acquired rifampicin resistance (ARR). Secondary outcomes were death, default, and toxicity. Intent to treat and efficacy analyses were performed. Outcomes compared using Chi-square test. [NCT00933790].

Results: 324 patients were allocated to regimens A (110), B (109) and C (105) respectively. Baseline characteristics were comparable.

<table>
<thead>
<tr>
<th>Daily regimen A (n=110)</th>
<th>Part Daily regimen B (n=109)</th>
<th>Intermittent regimen C (n=105)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age in years ±SD</td>
<td>38±8</td>
<td>39±9</td>
</tr>
<tr>
<td>Mean weight in kilograms ±SD</td>
<td>62.8±6.1</td>
<td>62.7±5.7</td>
</tr>
<tr>
<td>Mean HB g/mcL ±SD</td>
<td>9.7±2.2</td>
<td>9.6±2.0</td>
</tr>
<tr>
<td>Mean HCT% ±SD</td>
<td>28.7±6.6</td>
<td>27.8±5.3</td>
</tr>
<tr>
<td>Mean HIV viral load (log10) copies/mL ±SD</td>
<td>4.8±1.2</td>
<td>4.9±1.0</td>
</tr>
<tr>
<td>Median CD4 cell count (cells/mm³)</td>
<td>130(65-220)</td>
<td>145(79-262)</td>
</tr>
<tr>
<td>Median ATT-ART interval (IQR) in days</td>
<td>17(3-36)</td>
<td>17(5-45)</td>
</tr>
<tr>
<td>Mycobacterium TB sensitive to all drugs %</td>
<td>77</td>
<td>71</td>
</tr>
</tbody>
</table>

[Baseline Characteristics of HIV patients with newly diagnosed PTB randomized to three ATT regimens]

Favourable responses (ITI) in A and C were 90% (83/92) vs. 77% (65/85) (p=0.013, crossing O'Brien Fleming boundaries at second interim analysis). B had 79% (70/89) efficacy. Failures were three in B and eight (four with ART) in C. Adverse drug reactions were 24% and 10% in A, B, C regimens respectively.

Conclusions: Daily ATT resulted in higher cure, lower failure, no emergence of ARR but higher toxicity (mostly manageable) compared to thrice-weekly ATT.

WEBA022

INTENSIFIED TUBERCULOSIS CASE-FINDING AMONG PEOPLE LIVING WITH HIV: DIAGNOSTIC YIELD OF XPERT MTB/RIF, URINE LIPOPOLYSACCHARIDOMANNO AND LIQUID CULTURE

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Background: To reduce the burden of tuberculosis (TB) among PLHIV, the WHO recommends symptom-based screening at every clinic visit, followed by Xpert MTB/RIF (Xpert) testing for all individuals who screen-positive (intensified case finding [ICF]). However the utility of this ICF strategy is unknown. It is also not clear how other TB diagnostics can increase sensitivity and/or reduce the time to diagnosis.

Methods: We administered the WHO TB symptom screen to consecutive HIV-infected adults with CD4+ count ≤50 cells/μL, initiating antiretroviral therapy (ART) in Uganda from July 2013-December 2015. We collected 2 spot sputum specimens from all patients and urine if CD4 was ≤200 cells/μL. We compared the proportion of culture-confirmed TB cases detected by individual tests (sputum Xpert, urine Detergent Lysis Antigen Detection [D-LAM], and liquid culture [MGIT culture] and test combinations (Xpert+LAM, Xpert+MGIT, LAM+MGIT, Xpert+LAM+MGIT). We also calculated the time to TB detection as the time from enrollment to first positive result.

Results: Symptom screening was positive in 1,012 of 1128 (90%) patients [median CD4 156 cells/μL, IQR 69-265], including 152 of 159 patients with TB prevalence among symptomatic PLHIV was 15%. Of the 152 symptomatic and culture-confirmed TB cases, 95% (95% CI: 41-57) were identified with Xpert, 33% (95% CI: 20-48) with LAM, and 77% (95% CI: 69-83) with a single MGIT culture. Compared to Xpert alone, the diagnostic yield increased to 68% (difference 19%, 95% CI: 3-23) with Xpert+LAM, 85% (difference 36%, 95% CI: 26-46) with Xpert+MGIT, 80% (difference 30%, 95% CI: 19-42) with LAM+MGIT, and 86% (difference 37%, 95% CI: 26-47) with Xpert+LAM+MGIT. The false-positive rate was < 3% for all strategies. Over 75% of patients were diagnosed on the same day for ICF strategies that used Xpert, LAM, or Xpert+LAM.

Conclusions: TB prevalence was high among symptomatic PLHIV initiating ART. The currently-recommended ICF strategy (Xpert alone) missed nearly half of all TB cases. The inclusion of urine LAM increased diagnostic yield and same-day diagnosis, but without culture, any ICF strategy is likely to miss at least one-third of all patients with active TB in this setting.

WEBA023

CYTOMEGALOVIRUS VIRAEMIA AND 12-WEEK MORTALITY AMONG HOSPITALISED ADULTS WITH HIV-ASSOCIATED TUBERCULOSIS IN KHYALIETSHA HOSPITAL, SOUTH AFRICA: A PROSPECTIVE COHORT STUDY


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Background: Mortality in hospitalised patients with HIV-associated tuberculosis remains high. Cytomegalovirus (CMV) organ disease is one of the co-infections found in autopsies of such patients. We investigated the association of CMV viraemia with mortality in this setting.

Methods: HIV-infected inpatients in Khayelitsha Hospital with CD4+ <350cells/μL and new diagnosis of tuberculosis were enrolled from January 2014-June 2015. Plasma CMV qPCR was performed and categorized as detectable (CMV+) or undetectable (CMV-). Endpoint was 12-week mortality.

Results: We included 256 patients with median age 36 years (IQR 31-44 years), 49% male, 35% on ART, median CD4=64 cells/μL (IQR 24-117) and 79(30.9%) CMV+. By 12 weeks, 26(77.8%) of CMV+ patients died (Log-rank 9.3, p=0.008). Of 140 CD4+ patients, 45(32.1%) of CMV- patients died (Log-rank 0.5, p=0.6). In Kaplan-Meier analysis, CMV+ was associated with mortality in older, not younger patients.
Results: Early detection and anti-TB treatment initiation improves outcomes and adjusting for potential confounders. Older patients had higher mortality and were more likely to have CMV viremia. CMV viremia is a marker of more severe immunodeficiency rather than a direct contributor to mortality.

Conclusions: CMV viremia was associated with higher mortality, but not after adjusting for potential confounders. Older patients had higher mortality and were more likely to have CMV viremia. CMV viremia is a marker of more severe immunodeficiency rather than a direct contributor to mortality.

WEAB0204

YIELD OF COMMUNITY HEALTH WORKER-DRIVEN INTENSIFIED CASE FINDING FOR TUBERCULOSIS AMONG HIV-POSITIVE PATIENTS IN RURAL MALAWI

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Background: Tuberculosis (TB) is the most common cause of death in HIV-positive patients. Early detection and anti-TB treatment initiation improves outcomes and minimizes ongoing transmission. Intensified case finding (TB-ICF) among HIV-positive patients is recommended by the WHO, however evidence from routine implementation at high-volume antiretroviral therapy (ART) clinics in resource-constrained settings is scarce. Here, we describe the yield of TB-ICF conducted by community health workers (CHWs) among HIV-positive patients accessing ART in rural Malawi.

Methods: Thirteen CHWs employed by the Baylor Tsetse outreach program were trained to conduct TB-ICF using a standardized symptom screening tool at a large rural district hospital. Patients were screened while awaiting routine services at ART clinic. Patients screening positive were triaged for assessment by a clinician and traced if necessary. Sixteen months of pre- and six months of post-intervention data was abstracted from registers and tools used by CHWs. Single-group interrupted time series analysis was used to assess impact of the intervention.

Results: The mean number of monthly TB diagnoses made at ART clinic increased by a factor of 20 post-intervention(0.5 vs 10.0 monthly diagnoses, p < 0.0001). In the first month of the intervention an immediate increase of 6.7 monthly diagnosises occurred (p< 0.001, Figure 1). There was a statistically significant increase in the monthly trend of TB diagnoses relative to the pre-intervention trend of 0.78 per month(p<0.026). The yield of screening in the post-intervention period was 10.0%(46/459). Diagnoses were only made in children post-intervention(8/46, 19.6%).

Conclusions: Implementation of TB-ICF with CHWs was associated with significant increases in the number and trend of monthly TB diagnoses. Screening resulted in favorable yields, and helped link children to care. Future work is needed to ascertain the durability of this effect and the impact on treatment outcomes.

WEAB0205LB

HIGH-DOSE RIFAMPICIN TUBERCULOSIS TREATMENT REGIMEN TO REDUCE 12-MONTH MORTALITY OF TB/HIV CO-INFECTED PATIENTS: THE RAFA TRIAL RESULTS

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Background: Approximately 30% of TB/HIV patients die within 12 months of starting TB treatment. Current treatment strategies to reduce TB/HIV mortality rely largely on the optimal management of HIV disease. But, as supported by autopsy studies, the problem might also be seen from the TB perspective: more intensive TB treatment might also reduce mortality.

Methods: We conducted an open label, 3 parallel arms, randomised controlled trial, among TB/HIV co-infected patients who were ARV-naive and with a CD4 cell-count ≥50 cells/mm3 at enrolment, in Benin, Guinea and Senegal. The trial arms were: Arm A - ARV initiation at 2 weeks combined with standard TB treatment; Arm B (control arm) - ARV initiation at 8 weeks combined with standard TB treatment; Arm C - ARV initiation at 8 weeks with high-dose rifampicin (15mg/kg) during the first 2 months of TB treatment. The primary outcome was 12-month mortality.

Results: In total, 778 TB/HIV patients were randomised (n=262, 258 and 258 for arms A, B and C respectively). All TB cases were bacteriologically confirmed. CD4 cell-counts ranged from 50-949 (median 183), balanced across arms. By January 2016, all patients completed 12 months of follow-up post-randomisation. The overall 12-month mortality rates were: 11.8, 15.5 and 20.9 per 100 person-years in arms A, B and C respectively.  Using Cox regression, there was no evidence that overall mortality rates differed by treatment arm (p=0.40).

Restricting the analysis to patients with a baseline CD4 cell-count < 100 cells/mm3, mortality was substantially reduced (p=0.006) in Arm C, with high-dose rifampicin, compared with Arm B, but not in Arm A (p=0.24) (Fig 1). There was no evidence of an increased risk of hepatotoxicity in Arm C.

### Results Table

<table>
<thead>
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<th>Univariate</th>
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<td>CD4, per 50 cells/μL/L</td>
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<tr>
<td>CMV viraemia</td>
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**Likelihood ratio test= 37.2 on 7 d.f., p<0.0001**

Conclusions: Implementation of TB-ICF with CHWs was associated with significant increases in the number and trend of monthly TB diagnoses. Screening resulted in favorable yields, and helped link children to care. Future work is needed to ascertain the durability of this effect and the impact on treatment outcomes.
Conclusions: More aggressive TB treatment using high dose of rifampicin, in addition to ARV treatment, could reduce TB/HIV mortality among severely immunosuppressed co-infected patients.

WEAB0301

**SOFSBUVIR/VELPATAVIR FIXED DOSE COMBINATION FOR 12 WEEKS IN PATIENTS CO-INFECTED WITH HCV AND HIV-1: THE PHASE 3 ASTRAL-5 STUDY**


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Background: The once-daily fixed-dose combination tablet of sofosbuvir (SOF; nucleotide analog NS5B inhibitor) and velpatasvir (VEL; pangenotypic NS5A inhibitor) is under regulatory review for the treatment of chronic HCV infection. Phase 1 studies were conducted in healthy volunteers to evaluate potential drug-drug interactions (DDIs) between SOF/VEL and HIV antiretroviral (ARV) regimens to support coadministration in HIV/HCV co-infected patients.

Methods: These were multiple-dose, randomized, cross-over DDI studies. Subjects received SOF/VEL and ARVs EFV/FTC/TDF, RPV/FTC/TDF, DTG, RAL+FTC/TDF, EVG/CObI/FTC/TDF, DRV/r+ FTC/TDF, ATV/r+ FTC/TDF, LPV/r+ FTC/TDF, or EVG/CObI/FTC/TDF alone and in combination. Steady-state plasma concentrations of SOF, its predominant circulating nucleoside metabolite GS-331007, VEL, and ARVs were analyzed on the last day of dosing for each treatment. PK parameters were calculated and compared against lack of PK alteration boundaries of 70-143% for all analytes.

Results: 230 of 237 enrolled subjects completed the studies; 5 subjects withdrew consent, 1 discontinued due to Grade 1 urticaria and 1 discontinued due to pregnancy. The majority of adverse events (AEs) were Grade 1 and there were no serious AEs. Table 1 reports the effect of coadministration on HIV ARVs and SOF/VEL. No clinically significant changes in the PK of HIV ARVs, except TDF, were observed when administered with SOF/VEL. Increased TFV exposure (~40%) was observed when administered with SOF/VEL. No patient experienced confirmed HIV virologic rebound when administered with SOF/VEL.

CONCLUSIONS: The single tablet regimen of SOF/VEL administered for 12 weeks was well tolerated in HIV/HCV co-infected patients with GT 1-4, regardless of past treatment experience or presence of cirrhosis.
WEAB0303
HIGHER MORTALITY IN HIV-HBV CO-INFECTED PERSONS WITH ELEVATED HBV REPLICATION IN THE TEMPRANO TRIAL

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Background: In West Africa, 10% of HIV-infected adults are co-infected with hepatitis B virus (HBV). The impact of HBV co-infection on mortality is unknown. We analyzed the association between HBV replication and mortality during long-term follow-up in the Temprano trial.

Methods: Between March 2008 and July 2012, HIV-1-infected adults with CD4< 800/mm3 and no criteria for starting ART according to most recent WHO guidelines were randomized to deferred ART or early ART , and to receive or not Isoniazid Preventive Therapy. At inclusion, hepatitis B surface antigen (HBsAg) was tested for all those infected participants with available plasma HBV DNA, 119 (69%) had detectable HBV replication in the Temprano Trial.

Results: Of the 2056 participants in Temprano (78% women, median age 35 years, median CD4 count 465/mm3), 193 (9%) were HBsAg-positive. Of the 173 co-infected participants with available plasma HIV DNA, 119 (69%) had detectable HBV DNA (median 3880 copies/ml, IQR 660-2120000), including 73 (42%) with HBV DNA >2000 copies/ml. Median follow-up time was 58 months (IQR 40-69), totaling 9322 person-years (PY). During follow-up, 1814 (85%) patients started ART, 85 (4%) died, and 187 (9%) were lost to follow-up. The incidence of mortality was 0.9/100 PY overall, 2.1/100 PY in HBsAg-positive patients with baseline HBV DNA >2000 copies/ml and 0.9/100 PY in other patients (p=0.02). In multivariate analysis, the risk of mortality was independently higher in patients with HBV DNA >2000 copies/ml and 0.9/100 PY in other patients (p=0.02). In multivariate analysis, the risk of mortality was independently higher in patients with HBV DNA >2000 copies/ml and 0.9/100 PY in other patients (p=0.02).

Conclusions: In these West African HIV-infected adults with high baseline CD4 count, mortality was 2.2 times higher in patients with high levels of HBV replication.
WEAO305LB

HEPATITIS B VIRAL LOAD RESPONSE TO TWO ANTIVIRAL REGIMENS (TENOFOVIR/LAMIVUDINE VS LAMIVUDINE) IN HIV AND HBV CO-INFECTED PREGNANT WOMEN IN GUANGXI, CHINA: THE TENOFOVIR IN PREGNANCY (TIP) STUDY

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Methods: The Tenofovir in Pregnancy (TIP) study is a randomized controlled trial of the safety of a regimen containing tenofovir (TDF), lamivudine (3TC), and lopinavir/ritonavir, compared with zidovudine, lamivudine, and lopinavir/ritonavir, starting as early as 14 weeks gestation, in HIV/HBV co-infected pregnant women and their infants in Guangxi, China, recruited from 2012-2015. HIV VL response during pregnancy was compared in the two study arms and associations of pretreatment characteristics with such response were performed using Fisher’s exact test and Poisson regression.

Results: Thirty one of 35 women enrolled have delivered. The baseline median HIV VL was 4.01 log10 copies/ml in the TDF/3TC arm and 3.64 log10 copies/ml in the 3TC arm; proportions of HIV+ mothers were 38% and 20%, and median duration of antiviral therapy was 20 and 19 weeks, respectively. At delivery, 50.0% of mothers in the TDF/3TC arm and 73.3% in the 3TC-only arm achieved undetectable HIV VL (>100 copies/ml). None of the mothers in the TDF/3TC arm and 2.24 log10 copies/ml in the 3TC arm (<6 log10 copies/ml). All women achieved delivery HIV DNA level < 6 log10 copies/ml. In multivariable analysis, maternal baseline HIV VL >200,000 IU/ml was the only factor significantly associated with not reaching undetectable HIV VL at delivery (Relative Risk=0.12, 95% CI: 0.02-0.78). Conclusions: Initiation of tenofovir regimens from 14-28 weeks of gestation achieved high viral DNA suppression in 61% of pregnant women co-infected with HIV/ HBV, with no difference in the proportion of women achieving undetectable HIV DNA at delivery in the TDF/3TC or 3TC arms. Initiation of either regimen in the second trimester of pregnancy led to all women achieving HBV DNA level < 6 log10 copies/ml at delivery, the threshold thought to predict breakthrough HBV transmission to the infant.

WEAO103

HPTN 073: SUCCESSFUL ENGAGEMENT OF BLACK MSM INTO A CULTURALLY RELEVANT CLINICAL TRIAL FOR PRE-EXPOSURE PROPHYLAXIS (PrEP)

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Background: In the United States, Black men who have sex with men (BMSM) continue to be disproportionately impacted by high HIV incidence rates. comprising less than 4% of the U.S. population, BMSM accounted for more than 20% of new HIV infections in 2013. Identifying innovative and effective methods to deliver culturally-tailored prevention methods to end this epidemic among BMSM is a public health priority. HPTN 073 is one of the first U.S. studies to evaluate pre-exposure prophylaxis (PrEP) in a BMSM cohort.

Methods: HIV-uninfected BMSM were enrolled in three U.S. cities (Washington, DC, Los Angeles, CA, and Chapel Hill, NC). Under the study motto “My Life, My Health, My Choice” all participants were offered once daily oral FTC/tenofovir disoproxil fumarate (FTC/TDF) combined with client-centered care coordination (C4). The C4 model provided counseling support to promote and support PrEP use, along with service referral, linkage, and follow-up strategies to assist participants in addressing unmet psychosocial needs. Each participant was followed for a total of 12 months.

Results: All of the staff at the three sites were asked to participate in cultural responsiveness training as a part of implementation activities, and then utilized a variety of culturally relevant recruitment and retention techniques such as webinars, street and online outreach, peer-to-peer engagement, and partnerships with community service organizations. 344 BMSM were screened and 226 were enrolled in HPTN 073. 209 (92%) participants completed 12 months of follow-up. 40% were age 25 or less, 27% unemployed/disabled, 31% did not have health insurance, 25% reported high school graduation or less. 179 men (79%) accepted PrEP over the course of the study.

Conclusions: HPTN 073 demonstrated that BMSM can be successfully recruited, engaged, enrolled and retained in PrEP biomedical clinical trials using theory-based culturally tailored techniques. HPTN 073 provides a model for how best to integrate culturally-specific recruitment approaches when targeting communities at risk for HIV acquisition. Utilizing theory-based culturally tailored programs for BMSM that are reflective of their reality is key to reaching this highly at risk population of MSM who can benefit from the new HIV prevention biomedical advances.
WEACO104

CORRELATES FOR LEVELS OF SELF-REPORTED PREP ADHERENCE AMONG BLACK MEN WHO HAVE SEX WITH MEN IN 3 U.S. CITIES

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Background: The HPTN 073 Study assessed the initiation, acceptability, safety, and feasibility of PrEP for Black men who have sex with men (BMSM) in three U.S. cities. Upon the PrEP initiation, levels of PrEP use were monitored using self-reported adherence.

Methods: HPTN 073 Study enrolled 226 HIV-uninfected BMSM in three U.S. cities (Los Angeles, CA; Washington, DC; and Chapel Hill, NC, August 2013 and September 2014). All study participants were offered once daily oral FTC/TDF and client centered care coordination, and were followed for 12 months, with scheduled clinical visits every 3 weeks.

Results: Among the total 226 enrolled participants, 178 (79%) participants initiated PrEP. Proportions of self-reported high PrEP adherence (≥90%) ranged between 62% and 71%, while self-reported low adherence (<50%) ranged between 13% and 19% during weeks 13 through 52. High adherence is associated with age ≥25, higher education, full time employment, poly drug use and having a primary partner. Conversely, low adherence is associated with younger age, less education, non-fulltime employment, poly drug use, and no primary partner. Adjusted analysis shows that having a primary partner and no poly drug are highly associated with high adherence, whereas converse is true for low adherence.

WEACO105

INTEGRATED DELIVERY OF PREP AND ART RESULTS IN SUSTAINED NEAR ELIMINATION OF HIV TRANSMISSION IN AFRICAN HIV SERODISCORDANT COUPLES: FINAL RESULTS FROM THE PARTNERS DEMONSTRATION PROJECT

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Background: Antiretroviral therapy (ART) used by HIV infected individuals and pre-exposure prophylaxis (PrEP) by HIV uninfected individuals are highly efficacious HIV prevention tools. Assessing the effectiveness of these interventions and integrated delivery strategies in implementation settings is a priority.

Methods: The Partners Demonstration Project, an open-label PrEP and ART delivery study, began in 2012, and enrolled antiretroviral-naive, high-risk, heterosexual HIV serodiscordant couples from Kenya and Uganda. Couples were followed for 2 years. ART was recommended following national ART guidelines - initially CD4 < 350 cells/µL but soon thereafter all HIV serodiscordant couples regardless of CD4 count. PrEP was offered as a ‘bridge’ to ART in the partnership - i.e., until ART initiation by the HIV infected partner and for the first 6 months after ART initiation. We compared observed HIV incidence to a counterfactual simulation model, using bootstrap methods and constructed with data from a prior prospective study of HIV serodiscordant couples (the Partners PrEP Study, placebo arm). In a previously reported interim analysis, with ~40% of total expected follow-up time accrued, we found that HIV incidence was substantially reduced (2 incident infections compared to 40 expected infections); updated findings are presented here.

Results: Of 1,103 couples enrolled, 67% had an HIV positive female partner and the median age was 29. Among a randomly-selected sample of HIV negative partners receiving PrEP, tenofovir was detected in 82% of plasma samples (483/587 visits). ART was initiated by 92% of HIV positive partners by 24 months and viral suppression (<400 copies/mL) was achieved in 90%. As of January 2016, counterfactual simulations predicted that 63 incident HIV infections would be expected (incidence rate 5.1 per 100 person years, 95% CI 3.9-6.4). However, only 5 incident infections have been observed (incidence rate 0.3, 95% CI 0.1-0.7), for sustained HIV relative risk reduction of 94% (95% CI 85-98, p < 0.001).

Conclusions: An integrated PrEP and ART strategy is highly effective for preventing HIV transmission within HIV serodiscordant couples, showing near elimination in a high risk cohort. The Partners Demonstration Project will complete follow-up and analysis in June 2016 with final results available in July 2016.
WEAC0106LB
SEARCH TEST AND TREAT STUDY IN UGANDA AND KENYA EXCEEDS THE UNAIDS 90-90-90 CASCADE TARGET BY ACHIEVING 81% POPULATION-LEVEL VIRAL SUPPRESSION AFTER 2 YEARS

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Background: The SEARCH Study (NCT01864683; first phase endpoint 2017) is a cluster-randomized trial evaluating a “test and treat” HIV and multi-disease prevention strategy in rural Uganda and Kenya. We evaluated interim population-level HIV cascade coverage achieved over two years in the 16 SEARCH intervention communities.

Methods: We enumerated residents via baseline household census. HIV serostatus and plasma RNA were measured annually at multi-disease health campaigns followed by home-based testing for non-attendees. Streamlined ART (EFV/TDF/FTC or 3TC), including patient-centered care and viral load counseling, was universally offered. At baseline, and after one and two years follow-up, we estimated (1) proportion of baseline HIV+ adult (≥15 years) stable (>6mo/past year) residents previously diagnosed; (2) of these, proportion ever on ART; (3) of these, proportion with viral suppression (RNA<500 copies/ml). We estimated population viral suppression as a cascade product and via direct HIV RNA measurement, using inverse weights to adjust for missing measures.

Results: Of 77,773 baseline adult stable residents, 55% were women, 53% farmers, and 20% < 20 years. Baseline HIV prevalence was 9.9% (West Uganda: 6.3%; East Uganda: 3.3%; Kenya: 19.5%). We achieved high cascade coverage by follow up year 2 (Figure): (1) 97.4% (95%CI:97.3%,97.5%) were previously diagnosed; (2) 93.2% had received ART (95%CI:92.6%,93.9%); (3) 89.5% were suppressed (95%CI:88.6%,90.4%). Population viral suppression at year 2 was 81.3% (95%CI:80.8%,82.3%) based on the cascade product and 82.8% (95%CI:80.2%,85.3%) adjusted by direct measure. Coverage was high among men and mobile populations: 97.5% (95%CI:97.4%,97.7%) of men and 97.1% (95%CI:96.8%,97.5%) of mobile populations tested at least once; among baseline HIV+ > 80.3% (95%CI:78.4%,82.2%) of men and 81.7% (95%CI:78.3%,85.1%) of mobile populations had at least one suppressed RNA level.

Conclusions: Using a multi-disease community-based approach and patient-centered streamlined care, we increased population viral suppression from 45% to 81%, exceeding the UNAIDS 90-90-90 cascade target within 2 years in SEARCH intervention communities.

WEAC02202
TRANSFORMING HIV PREVENTION AND CARE TALK

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Background: Transgender women (TGW) are known to be disproportionately affected by HIV. Although less is known about transgender men (TGM) recent studies have highlighted elevated risk in this population, especially among those who identify as MSM. PrEP is an effective biomedical intervention to prevent incident HIV infections, but adherence is reported to be lower among TGW. In 1/2014 Callen-Lorde Community Health Center, an LGBT-focused clinic in NYC that predominately cares for HIV-infected and at-risk clients, implemented PrEP services. One of the goals was to create a program that was trans-inclusive.

Description: Almost 1500 clients have accessed PrEP since implementation of the program. Careful tracking of PrEP uptake revealed low involvement by transgender clients, with only 5 receiving PrEP in the first 6 months. Challenges included community-level lack of knowledge, provider and client under-estimation of HIV risk, especially among TGW, and lower rates of HIV-testing, resulting in fewer opportunities to discuss PrEP. The clinic responded by offering HIV screening during all new transgender intake appointments, distributing trans-inclusive education materials, PrEP education videos that included transgender/genderqueer actors. The clinic has intentionally become a more diverse work place with transgender counselors, testers, patient navigators and nurses.

Lessons learned: The interventions were successful. 118 transgender clients have accessed PrEP over 3 years, 8.4% of total prescriptions written. The majority 71.2% (84) have been TGW, 10.2% (12) genderqueer, and 18.6% (22) TGM. The populations accessed by insurance and race with public “safety net” coverage being predominantly used by genderqueer and TGW (67% & 60.7%) whereas TGW predominantly used commercial insurance (64%). TGW were mostly nonwhite (70%) whereas TGW and genderqueer people were predominantly white (81%, 78%).

Conclusions/Next steps: As scale-up of PrEP continues, clinics considering implementation of PrEP need to ensure that they track utilization to monitor disparities among users. Addressing PrEP uptake among transgender clients requires a multi-faceted approach.
WEAC0203 LIFESKILLS: RESULTS FROM A FULL-SCALE, RANDOMIZED CONTROLLED TRIAL EXAMINING THE EFFICACY OF A GROUP-BASED BEHAVIOURAL INTERVENTION FOR HIV PREVENTION AMONG YOUNG TRANSGENDER WOMEN

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Background: HIV prevalence is high among transgender women. A global meta-analysis of HIV burden among transgender women found a 19% HIV prevalence and 49-fold increased odds of HIV infection compared with all adults of reproductive age. A U.S.-based meta-analysis found an overall 28% laboratory-confirmed HIV prevalence. No evidence-based HIV prevention interventions (EBIs) for transgender women exist in the Centers for Disease Control and Prevention (CDC) compendium of EBIs. We addressed this gap by testing a culturally-specific, behavioral intervention for HIV prevention (“Lifeskills”) among young transgender women (YTW) in a randomized controlled efficacy trial. Lifeskills is theoretically-driven and grounded in the social realities of YTW, with content developed using a community-based par-ticipatory approach with guidance from a multidisciplinary research team.

Methods: We recruited 300 YTW, ages 16-29, in two US cities (Boston and Chicago), who were randomly assigned to 2:1:1 in a 3-arm (Lifeskills, standard-of-care, and time-matched attention control) trial examining the efficacy of a multi-session, group-based intervention for HIV prevention. Participants were followed for one year, with visits at 4, 8, and 12-months post-randomization. Enrollment was completed between 2012-2015, with follow-up visits through September 2016. Generalized linear models (GLM) examined differences in condomless sex (CS) acts between intervention and control arms.

Results: Participants were racially/ethnically diverse; 49% Black, 12% Latina, 25% White, and 14% other. At enrollment, 22% of participants were HIV-infected (3% previously undiagnosed). Interim analysis with >90% of visits completed indicated feasibility and efficacy of the intervention to reduce CS acts compared to the standard-of-care control arm. We found a >20% difference in reduction in CS acts (vaginal and anal) from baseline with a significant 12-month arm x time interaction (F(3,447) = 12.29, p<0.0001). Intervention participants reported high satisfaction with the curriculum; 98% indicated they would recommend a friend and 99% said the interven-tion met their expectations.

Conclusions: Using the CDC “Guide to the Continuum of Evidence for Efficacy” as a framework, Lifeskills may be the first well-supported, evidence-based behavioral intervention (EBI) for HIV prevention among YTW. Additional research is needed to demonstrate independent replication of findings and guide implementation and dissemination of Lifeskills in other U.S. communities and regions of the world.

WEAC0204 DIFFERENCES BETWEEN UNKNOWN HIV-POSITIVE AND HIV-NEGATIVE BLACK TRANSGENDER WOMEN IN THE UNITED STATES: RESULTS FROM PROMOTING OUR WORTH, EQUALITY, AND RESILIENCE (POWER)

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Background: HIV disproportionately burdens Black transgender women (BTW) in the United States. Improving HIV testing uptake to identify unknown HIV-positive individuals is critical to attenuating the HIV epidemic in this population. Understanding demographic and psychosocial differences between HIV-positive BTW who are unaware of their status and HIV-negative BTW may help elucidate means by which to increase HIV testing uptake in this population. Therefore, this analysis explores possible differences between unknown HIV-positive BTW and HIV-negative BTW.

Methods: Cross-sectional data for our analysis came from the first two years of the ongoing study, POWER. In 2014 and 2015, POWER employed time-location sampling (TLS) to recruit a community-based sample of Black men who have sex with men and BTW (n=3,426) who attended Black Pride events in six U.S. cities. Participants completed a behavioral health survey and were offered onsite HIV-testing. Unknown HIV-positive BTW were identified for analysis if they reported a negative HIV-status within the survey but provided a positive HIV antibody screening test result through on-site testing. Self-report HIV-negative status was confirmed with on-site testing. Differences in HIV-status (unknown versus negative) were evaluated using TLS weighted independent logistic regression models adjusted for age, education, and city.

Results: A total of 253 BTW provided complete data for our analysis. We observed an HIV prevalence of 37.9%. Of the 96 HIV-positive BTW, 50.0% were unaware of their HIV-status. Compared to HIV-negative BTW, unknown HIV-positive BTW reported significantly higher prevalence of past-year physical assault (40.4% vs. 58.3%, respectively) and past two-year incarceration (31.9% vs. 52.1%, respectively). In independent multivariable models, physical assault (AOR=2.1; 95% CI: 1.0, 4.2) and incarceration (AOR=2.3; 95% CI: 1.1, 4.7) were associated with greater likelihood of unknown positive status.

Conclusions: Developing and implementing interventions that address experiences of physical assault and a history of incarceration may assist in informing the HIV dis-parity among BTW in the U.S. More research is needed to identify and understand the structural, community, and individual-level barriers and facilitators that shape BTW’s engagement with HIV-testing and HIV-care.
Background: The population of perinatally HIV-infected adolescents (PHA) continues to expand globally. This study aims to describe the geographic and temporal characteristics and outcomes of PHA.

Methods: Through the Collaborative Initiative for Paediatric HIV Education and Research (CIPHER), individual retrospective data from 12 cohort networks were pooled. Included PHA were enrolled care before age 10 years with no known non-vertical route of HIV infection, and were followed beyond age 10 years. This initial analysis describes characteristics at first visit, start of antiretroviral therapy (ART), start of adolescence (age 10 years) and surviving patients at last follow-up.

Results: Of 37,614 PHA included, 49.4% (18,591) were male and 79% were from sub-Saharan Africa (Table 1). Median (interquartile range [IQR]) follow-up during adolescence was 2.36 (1.00-4.35) years, ranging from 2.04 (0.87-3.77) sub-Saharan Africa to 6.38 (3.51-8.01, Europe & Central Asia) years.

Reported mortality during age 10 and 15 years was 3.08% (95% CI 2.83-3.36) ranging from 0.78% in Europe & Central Asia to 4.72% in South America & Caribbean (Table 1). Conclusions: Reported mortality during adolescence was < 5% in all regions represented in this global analysis of HIV-infected children surviving to age 10 years. Under-ascertainment of mortality and impaired growth are concerns.
WEAC0303
THE IMPACT OF A CASH TRANSFER ON YOUNG SOUTH AFRICAN WOMEN’S ON MENTAL HEALTH: HPTN 068
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Background: Cash Transfers have been found to improve the mental health of recipients. Possible mechanisms for the improvement in mental health include a reduction in financial stress and a hope for a better future due to an improved financial situation.

Methods: HPTN 068 was a 3-year randomized controlled trial to assess the impact of a cash transfer, conditioned on school attendance, on HIV incidence among young rural South African women. 2328 young women were HIV negative at baseline and had at least one follow up visit. Young women completed a survey using Audio Computer Assisted Self-Interview at baseline and at 12, 24, and 36 months. We assessed depression and anxiety using: the Short Form Children’s Depression Inventory (CDI), the Center for Epidemiologic Studies Depression Score (CES-D), and the Revised Children’s Manifest Anxiety Scale. Hope was measured with the Abler Hope Scale. CDI (>7) and CES-D (>16) were analyzed using log-binomial regression and robust variance to account for repeated measures. CMAS (summed score) and Hope (summed score) were analyzed using generalized estimating equations (GEE) with identity link, normal distribution and robust variance to account for repeated measures.

Results: Overall we saw no association between receipt of the conditional cash transfer and reduced depression or anxiety among young women (Table 1). In addition, there was no association between receipt of the cash transfer and increased hope for the future (Table 1).

Conclusions: In this randomized control trial of a cash transfer, conditional on school attendance, we saw no impact of receiving the cash on depression, anxiety or hope for the future. High levels of school attendance and social protection coverage were observed in the cohort and thus it is possible that the addition of the cash transfer did not meaningfully reduce anxiety about poverty or improve future outlook above the baseline levels.

WeAC0304
WHY THE DISPARITIES? THE FIRST NATIONAL LOOK AT HIV-RELATED RISK BEHAVIOURS AMONG GAY AND BISEXUAL MALE HIGH SCHOOL STUDENTS, UNITED STATES 2015
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Background: An estimated 22% of all new diagnoses of HIV in the United States in 2014 occurred among 13-24 year-olds and most of these diagnoses occurred among males who have sex with males. The 2015 national Youth Risk Behavior Survey (YRBS) is the first national survey in the United States to provide national estimates of the size of the sexual minority population in high schools and document the disparities in HIV-related risk behaviors between gay/bisexual and heterosexual male high school students.

Methods: The 2015 national YRBS employed a three-stage national probability sample of 15,624 students in grades 9-12 (ages 14-17). Black and Hispanic students were oversampled. T-tests were used to determine significant pairwise differences between gay/bisexual and heterosexual male high school students.

Results: Nationally, 2.0% of male high school students identified as gay and 2.4% identified as bisexual. Gay/bisexual male students were at least twice as likely as heterosexual male students to report being electronically bullied; bullied on school property; not going to school because of safety concerns; being physically forced to have sexual intercourse; experiencing physical and sexual dating violence; ever using cocaine, heroin, and methamphetamine; and ever injecting drugs. However, no significant differences were identified between gay/bisexual male students and heterosexual male students in ever drinking alcohol, ever using marijuana, ever having sexual intercourse, having sexual intercourse with four or more persons, being currently sexually active, using a condom at last sexual intercourse, and drinking alcohol or using drugs before last sexual intercourse.

Conclusions: Though males who have sex with males are disproportionately affected by HIV, behaviors that directly contribute to HIV infection (ex. not using a condom) do not appear to be driving the disparities at least among male high school students nationwide. Nonetheless, the results clearly demonstrate significant disparities in many other health-risk behaviors that could present barriers and decrease access to HIV prevention and treatment technologies among gay/bisexual male students. The results also suggest the importance of addressing broader social determinants of health associated with increased risk for HIV infection including stigma, discrimination, lower educational attainment, unemployment, and incarceration.

WeAC0305LB
CHANGES IN BONE MASS AFTER DISCONTINUATION OF PREP WITH TENFOVIR DISPROXIL FUMARATE/EMTRICITABINE TDF/FTC IN YOUNG MEN WHO HAVE SEX WITH MEN (YMSM): EXTENSION PHASE RESULTS OF ADULTESNTAL TRAILS NETWORK (ATN)110
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Background: PrEP with TDF/FTC is associated with modest bone loss in HIV-seronegative adults and adolescents. There is particular concern about bone loss during adolescence/early adulthood, a period of continuing bone growth. The aim of this study was to determine whether bone loss reversed with discontinuation of PrEP in HIV-seronegative YMSM ages 18-22.

Methods: ATN110 is a 48-week open-label demonstration and safety study of TDF/FTC PrEP in 200 YMSM. As part of safety monitoring, bone mineral density (BMD) was measured by dual-energy X-ray absorptiometry (DXA). Participants who lost or failed to accrue bone after 48 weeks on TDF/FTC PrEP immediately entered an extension phase (EPh) in which DXA scanning was performed 24 and 48 weeks after discontinuation of PrEP. Results are means±SD.

Results: Of 135 participants who had DXA scans at the end of the 48-week TDF/FTC treatment phase, 105 (78%) were eligible for EPh. After exclusion of seconvertingers (N=6) and those who received PrEP through their regular providers (N=16), EPh data are available for 74 participants. Among this group, average BMD changes from baseline to week 48 of the treatment phase were: spine -0.02±0.07% (P=0.53); hip -1.41±3.6% (P=0.002); whole body (WB) -0.6±2.5% (P=0.03). Forty-eight weeks after discontinuation of TDF/FTC, BMD increased (spine +1.13±3.0% [P=0.003]; hip -1.4±3.6% [P=0.002]; whole body -0.6±2.5% [P=0.03]).
WEAC0402 EXTENDED-RELEASE NALTREXONE LENGTHENS TIME TO HEAVY DRINKING AMONG HIV+ RELEASED PRISONERS WITH ALCOHOL USE DISTURBANCES

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Background: Alcohol use disorders (AUDs) negatively impact every step in the HIV continuum of care. For HIV+ prisoners in particular, relapse to heavy alcohol use upon release is associated with poor retention in care and loss of HIV viral suppression. Extended-release naltrexone (XR-NTX) is an approved and effective monthly injectable medication to prevent relapse to alcohol use but has not been studied among HIV+ persons or among prisoners.

Methods: We conducted a NIAAA-funded double blinded placebo-controlled trial of XR-NTX (randomized 2:1; XR-NTX: placebo) among HIV+ prisoners with AUDs who were released to the community in Connecticut, U.S.A. Primary outcome of interest was time to first heavy drinking day (TFHDD). Due to elevated data missingness, a Little’s MCAR test was first performed and confirmed the data were missing at random. This missingness structure allowed multiple imputation and subsequent multivariate analysis via Bayesian modeling. A heavy drinking day was defined as ≥5 drinks for males, ≥4 drinks for females. Intervention time was 6 months and total follow-up period was 12 months.

Results: 107 HIV+ prisoners were enrolled during the study period from 2010-2015. The first study drug injection occurred one week prior to release during incarcerations, and five subsequent injections occurred monthly after release to the community. TFHDD was significantly longer in those that received XR-NTX vs placebo (80.4 vs 73.5 days; p< 0.001). In addition to the overall treatment effect of XR-NTX, age < 30 years, lower Alcohol Use Disorder Identification Test (AUDIT) scores, and abstinence from opioids and/or cocaine during the intervention period were significantly associated with longer TFHDD (p< 0.001).

Conclusions: XR-NTX significantly lengthened the time to heavy drinking after release for HIV+ released prisoners, particularly among younger persons. Interventions aimed at preventing relapse to alcohol among HIV+ prisoners transitioning to the community should include XR-NTX.

[Figure 1. Kaplan Meier Plot of Time to First Heavy Drinking Day by Age & Study Arm]

WEAC0403 PRELIMINARY EXPERIENCE WITH MEDICALLY ASSISTED THERAPY FOR PEOPLE WHO INJECT DRUGS IN MOMBASA COUNTY, KENYA

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Background: Kenya modes of transmission study attributed 4% of all new HIV infections to injecting drug use. ART-PWID, a 4-year program, funded through PEPFAR grant aims to reduce HIV morbidity and mortality among people who use drugs in Kenya.

Methods: This program is implemented via a four pronged approach: improving policies, strategies, guidelines and coordination; increasing access to comprehensive HIV prevention, care and support package for PWID; strengthening policy makers & community support; and enhancing M&E Capacity. This program’s key focus is introduction and scale up of high impact, evidence-based interventions, specifically Medically Assisted Therapy (MAT) - alias opioid substitution therapy.
WEAC0405
MODELLING THE POTENTIAL IMPACT OF THE INCARCERATION ON HIV INCIDENCE AMONG PEOPLE WHO INJECT DRUGS IN TJUJUA, MEXICO

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Background: Incarceration rates are high among people who inject drugs (PWID) in Tijuana, Mexico with a higher HIV prevalence among those ever compared to never incarcerated. Using dynamic mathematical modeling we estimate the contribution of incarceration to the HIV epidemic among PWID in Tijuana and the potential impact of reducing incarceration rates.

Methods: Data on HIV prevalence and incidence by incarceration exposure were obtained from an ongoing cohort of PWID in Tijuana (“El Cuete IV” 2006-2015). HIV prevalence was 3.4% and 6.7% among male and female PWID respectively. 85% and 53% of male and female PWID, respectively reported previous incarceration.

Relative risk of HIV infection among ever versus never incarcerated male and female PWID was 1.10 (95% CrI: 0.26-4.73) and 3.24 (95% CrI: 0.70-15.00) respectively. A deterministic mathematical model of HIV transmission among PWID was developed reproducing the differential HIV risk and incarceration patterns among PWID by sex. The model was embedded in a Bayesian statistical framework using a Markov Chain Monte Carlo (MCMC) algorithm to estimate uncertainty in the outputs. Epidemic fits were resampled from the posterior distribution and the proportion of new infections attributable to incarceration was calculated over different time periods (1980-2016, 2016-2021 and 2016-2026).

Results: The model estimated that from the start of the epidemic to date, 43.5% (95% CrI: 25.9%-60.3%) of new infections were attributable to incarceration and without incarceration HIV prevalence could have been a relative 2.1 folds (95% CrI: 1.4-3.1) lower in 2016 (1.7% instead of 3.4%). In the absence of incarceration between 2016-2021 and 2016-2026, 7.7% (95% CrI: 8.8%-22.8%) and 10.6% (95% CrI: 6.4%-26.6%) of new infections would be averted.

Conclusions: Preliminary modeling suggests incarceration has contributed substantially to HIV incidence among PWID in Tijuana, and a reduction in incarceration could avert up to 10% of new infections in the next 10 years. In 2009, Mexico decriminalized the possession of certain drugs for personal consumption in an effort to reduce incarceration rates among users, however the reform has not been enforced in Tijuana. Further delaying its enforcement undermines the efforts to control the epidemic among this population.
Conclusions: To our knowledge, this is the first intervention that targeted increasing participation in CHCT. Results suggest that addressing relationship factors among African heterosexual couples can significantly improve rates of CHCT. The intervention had an impact on proportion of unprotected sex acts at first follow-up but this was not sustained over time. Our intervention reached a high number of couples that were unaware of their joint HIV status at baseline. Further, results show that it is possible to promote engagement in CHCT— which is an effective strategy that accomplishes HIV testing, mutual disclosure and can facilitate entry into treatment for HIV-positive individuals in high prevalence settings.

WEADO103

ASSESSMENT OF COUPLE RELATIONSHIP QUALITY AND LINKS TO HIV PREVENTION, TREATMENT AND CARE IN RURAL MALAWI

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Background: Couple relationship quality may impact partner-level behaviors related to HIV risk, including couple HIV testing, serostatus disclosure and care outcomes. The Couple Functionality Assessment Tool (CFAT) was developed to allow programs to assess couple relationship quality in low-resource settings.

Methods: The CFAT was pilot tested among 203 women and 198 men (married and cohabiting) in rural Malawi in August 2015. Factor analysis reduced the CFAT to thirty-one questions addressing five domains of relationship quality (intimacy, partner support, sexual satisfaction, decision-making, communication and conflict management), plus questions on intimate partner violence and partner support for seeking HIV care. Regression analysis examined the relationship of the refined CFAT to key HIV-related outcomes.

Results: Most participants reported that they and their partners had been tested for HIV and mutually disclosed their status (90% of women, 85% of men). Women with the highest relationship quality scores were significantly more likely than women with the lowest scores to report that they and their partners had been tested for HIV and mutually disclosed results (94% vs. 72%, p < .01) and also to report other behaviors critical to HIV risk and care treatment, such as deciding with partner how to manage household budget (< .001 and p = .002, respectively).

Conclusions: The CFAT showed validity in this population, and findings suggest that strengthening couple relationship quality and giving couples tools to build good communication may support behaviors critical to HIV outcomes. Women may be underestimating men’s support for PMTCT services and pediatric testing, which could create barriers to care. The greater violence and abuse experienced by women in low-quality relationships may also create HIV risk and impede care. The CFAT will enable programs aiming to improve HIV outcomes by enhancing couple functionality to measure relationship quality validity and reliability.

WEADO104

PARTNER COMMUNICATION AND SUPPORT AROUND HIV AND HOW THIS RELATES TO HEALTH-SEEKING BEHAVIOUR: A QUALITATIVE STUDY AMONGST HIV-POSITIVE INDIVIDUALS AND COUPLES IN KARONGA, MALAWI

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Background: HIV policies and practices in Malawi and elsewhere in sub-Saharan Africa have strongly focused on couple testing, counselling and partner disclosure to improve treatment adherence and outcomes. Little is known about how HIV-positive discordant couples respond to these initiatives, and the consequences for their relationships and HIV care-seeking behaviours. In the context of a larger qualitative study on the experiences of care-seeking among HIV-infected adults, communication around HIV and its influence on care-seeking behaviours was explored.

Methods: In-depth interviews were carried out with 24 women and 17 men diagnosed with HIV, including 8 mutually disclosed couples, purposefully sampled from ART clinics or households using the Karonga health and demographic surveillance system database. Participants were encouraged to explain their journey with HIV;
Results: Communication about HIV testing, care and treatment in a relationship was primarily driven by a perceived need for support: some people disclosed their status in anticipation of specific support mechanisms, while others did not disclose for fear of being abandoned and losing any kind of support. Communication about HIV testing and treatment was often initiated by women, and was often influenced by child-bearing and care.

Despite knowing each other’s HIV status, most partners were unable to accurately articulate their partner’s HIV-related experiences suggesting communication was restricted to particular areas and implying an individual focus. Those that reported support generally defined it in practical rather than psychological terms (e.g. reminders to take drugs).

Conclusions: Most participants reported that disclosing to their spouse was important, but following disclosure communications did not consistently extend to a meaningful understanding of the other’s experience of living with HIV. Despite purportedly couple-friendly services, partners rarely attended the health facility together, suggesting HIV remains a solo journey. As policy moves towards universal preventive services, partners rarely attended the health facility together. HIV-related support was defined in practical rather than psychological terms (e.g. restricted to particular areas and implying an individual focus). Those that reported support generally defined it in practical rather than psychological terms (e.g. reminders to take drugs).

WEAD0105 INTERVENTION OUTCOMES ON MENTAL HEALTH OF PLH, FAMILY MEMBERS AND CHILDREN: A RANDOMIZED CONTROLLED TRIAL IN RURAL CHINA

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Background: HIV impacts family lives. This family study examined the efficacy of an intervention that targets people living with HIV (PLH), their family members and children in rural China. The intervention outcomes on mental health were evaluated for all the three populations.

Methods: The intervention trial utilized a two-arm design with 475 families impact-ed by HIV in rural Anhui, China, including 522 PLH, 475 sero-negative family members, and 536 children aged 6-18. Previously piloted TEA (Together for Empower-ment Activities) intervention was delivered at three levels: 1) TEA Gathering (small group for PLH and family members); 2) TEA Time (home-based family activities with children); and 3) TEA Garden (community events). Intervention effect was evaluated at baseline, 6-, 12-, and 24-month follow-ups. Mixed-effects regression models were used to assess the improvement on the mental health measures -- for PLH on depressive symptoms and coping with illness, for family members on depressive symptoms and caregiver burden, and for children on self-esteem and daily stress. Estimated difference and standard error (SE) in changes from baseline between intervention and control from the regressions are shown.

Results: For PLH, we found significant intervention effects on improved levels of coping with illness at the 6-month (4.45±0.84; P<0.0001), 12-month (3.19±0.85; P=0.0002), 18-month (3.09±0.85; P=0.0003), and 24-month follow-up (2.55±0.87; P=0.0034). Similarly, significant effect on reduction of depressive symptoms was observed at each of the follow-ups for PLH. For family members, significant intervention effects at the follow-ups were found on improved depressive symptoms, but not on caregiver burden. For children, although intervention effects on the improved self-esteem were not significant between intervention and control, significant intervention effects on levels of daily stress were found at the 6-month (1.49±0.72; P=0.0396) and 12-month (1.68±0.74; P=0.0241) follow-ups.

Conclusions: This is our first longitudinal outcome report based on the large-scale, randomized trial. Study findings support the feasibility in implementation and ef-ficacy of the multilevel TEA intervention not only for PLH also for family members and children. Intervention activities that connect various members in a family could be the key to link to the intervention outcomes.

WEAD026 SEX THROUGH THE AGES

WEAD021 MEETING THE REPRODUCTIVE INTENTIONS OF PLHIV IN MALAWI

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Background: Malawi’s HIV clinical management guidelines recommend provider-initiated family planning (PIPF) counselling and provision of condoms and injectables within ART settings. The USAID- and PEPFAR-funded Health Policy Project’s 2015 study assessed how the reproductive rights of PLHIV are being addressed through the integration of FP into ART services.

Methods: Data were collected from a purposive sample of 41 public and private facilities across nine districts of Malawi. Facilities ranged from large high-volume hospitals to small health posts. Data collectors conducted 41 facility audits, 41 in-terviews with facility in-charges, 122 interviews with providers, 425 client exit inter-views, 58 mystery client interviews, and three focus group discussions with PLHIV (n=33).

Results: Over half (52%) of female clients (n=315) reported not wanting another child. The majority of female clients (60%) were using contraception; half relied on condoms, one-third were using injectables. Almost one-half (47%) reported not be-ing told about side effects with their current method; 26% reported they were not told about other FP methods. Only 14% of clients reported receiving PIPF at that day’s visit. Few clients (18%) reported receiving multiple services that day; however 97% said they would prefer to receive fully integrated services. Clients identified fewer trips to the facility (78%) and reduced transportation costs (43%) as clear benefits of integrated services. Mystery client visits revealed extremely low levels of PIPF implementation (2), and also documented cases of harsh treatment (11), and instances where clients were denied services (ART=5, FP =12) because they were not registered at that facility. Fewer than half of mystery clients reported a satisfactory experience. Some FGD participants recounted experiences of mistreat-ment from service providers.

Conclusions: ART clients in Malawi have a high demand and need for effective FP services, and express a preference for integrated services. Yet despite national guidelines on PIPF, few providers are initiating discussions on reproductive inten-tions with ART clients. Many HIV clients are relying on condoms to meet their re-producitve intentions, and a large number are not receiving quality counseling on a range of methods. An unanticipated finding was the degree to which providers may be mistreating clients, which warrants further study.

WEAD0202 SEXUAL AND REPRODUCTIVE HEALTH (SRH) NEEDS AND EXPERIENCES OF YOUTH LIVING WITH HIV

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Background: The 1994 International Conference on Population and Development marked the start of the rights-based approach to SRH, with focus towards individu-al needs and their rights, aspirations and rights. SRH needs of youth living with HIV (YLHIV) are often overlooked, meeting them is fundamental to SRH rights of YLHIV and to addressing the global HIV pandemic. Despite its significance, SRH of YLHIV is an often neglected area of research and programming and represents a priority on 2015 post-MDG agenda. Straight Talk Foundation aimed to investigate the dynamics underpinning sexual and reproductive health for YLHIV in Uganda.

Methods: A cross sectional and qualitative study design was adopted. The study was carried out among YLHIV who lived in either an urban setting (Kampala) or a rural or post war (Gulu) district. A sequential explanatory approach was used in data collection. Participants were systematically picked from a sample frame determined within their peer network. 39 Semi-Structured interviews with YLHIV and 7 key in-formants with counselors and medical staffs were carried out. Voice recorders were used to capture data thus data was transcribed and exported to Nvivo version 10 for data analysis. Consent was sought from the young people.

Results: YLHIV were sexually active, or in relationships with intentions of sexual activity, and with no-discordant partners. Health facilities where YLHIV accessed ARVs from had no SRH services integrated. The sexual encounters of YLHIV were typically unplanned making negotiation of safe sex, such as disclosure and use of contraceptives challenging and inconsistent. YLHIV reported experiencing a lot of pubic HIV-related stigma and discrimination leading to social isolation, which re-
ducres social support networks and led to poor self-esteem consequently poorer motivation for self-protection during sex. Many of the YLHIV lacked SRH information for decision making thus fuelling myths and misconceptions which YLHIV commonly act upon; faced cultural taboos and the association of sexuality with immorality inhibiting discussion of sex, relationships and contraception between YLHIV and their parents.

Conclusions: Social vulnerability of YLHIV to SRH threats is complex and multifaceted. In order to improve SRH for YLHIV, a holistic approach which addresses the broader social environment is required.

WEAD0203

“I ALWAYS WANTED A BIG FAMILY BECAUSE I LOST MINE”: A QUALITATIVE ANALYSIS OF PARENTING PERSPECTIVES AMONG YOUNG PARENTS WITH PERINATALLY-ACQUIRED HIV

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Background: Globally, children with perinatally-acquired HIV (PHIV) are now living into young adulthood and having children of their own. Little is known about the parenting perspectives of youth who may have experienced family disruption due to loss/illness of biological parents. This research explores the perceptions of adolescents and young adults (AYA) living with PHIV as they transition into parenthood.

Methods: We conducted hour-long, semi-structured, audio recorded interviews with a purposive sample of 16 AYA participants with PHIV who were current or former patients at two U.S. pediatric/adolescent infectious diseases clinics. Participants were asked about their childhood family structure, rewards/challenges of parenting, and anticipated future fertility desires/intentions. Analysis of the transcribed interviews was guided by grounded theory identifying key common themes across the interviews.

Results: Mean age of participants was 22 years. The majority were black (7) or Hispanic (6) and female (14). Four AYA were raised by biological mothers, five by foster/adoptive parents and the others by relatives. Participants had a range of 1-3 children (mean=1.4), one of whom was HIV-positive. Participants expressed many normative parenting rewards and challenges such as the joy of their child’s smile and financial concerns. Unique themes associated with HIV infection included a concern about not “being there” for their child due to sickness and worries that their child may experience HIV-related discrimination. Among those parents who intended to have another child, many were motivated by a strong desire to create a family of their own as a way to deal with HIV-related losses experienced in childhood. Finally, participants also noted the positive role played by pediatric and adolescent medical providers, even if they had transitioned to adult care. Participants reported the importance of emotional support offered by providers as well as concrete social services available in that care setting.

Conclusions: AYA with PHIV who have children experience many of the same issues as other young parents. However, they also have HIV-specific experiences that influence their parenting such as illness, discrimination, and childhood parental loss that may intensify their fertility desires. The positive impact providers have throughout their parenting such as illness, discrimination, and childhood parental loss that may intensify their fertility desires. The positive impact providers have throughout their parenting such as illness, discrimination, and childhood parental loss that may intensify their fertility desires.

WEAD0205

FINDINGS FROM THE SEXUAL HEALTH AND AGING PROGRAM (SHAPE) FOR OLDER WOMEN WITH HIV PILOT STUDY AND FUTURE DIRECTIONS

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Background: There are few sexual risk reduction interventions that prioritise the unique needs of older women living with HIV (OWLH). The lack of proven interventions is particularly problematic in light of documented risk behaviors in this population, including condomless sex (CS), often with serodiscordant partners. To address the dearth of work on HIV prevention for OWLH, we conducted research to develop the Sexual Health and Aging Program (SHAPE).

Description: SHAPE is a theoretically derived, gender- and generationally-tailored, peer-delivered, small-group, skills-based intervention designed to reduce participants’ stress related to HIV disclosure and maintaining safer sexual behaviors and promote successful aging with HIV which incorporates HIV transmission prevention methods for OWLH (Treatment as Prevention) and their partners (PreP). We pilot tested SHAPE with 58 OWLH, aged 45 years and older who reported CS in the prior 3 months to assess the feasibility, safety, and acceptability of study procedures and evaluation process. We conducted 58 baseline ACASI surveys, 49 (84%) and 48 (83%) 3- and 6-month follow-up assessments respectively, and we conducted 7, 2-day SHAPE programs with 33 women and 7 booster sessions; 25 women also received a standard of care program.

Lessons learned: Participants found SHAPE to be highly acceptable and comfortable. Due to ceiling effects and the small size, the intervention had no effect on reducing CS, or improving coping, HIV disclosure and safer sex self-efficacy compared to standard of care. Almost 80% of the participants were virally suppressed and had extremely high baseline coping self-efficacy (mean scores: 199-203).

Conclusions/Next steps: We believe that SHAPE’s impact would be greatest if it was targeted to the most vulnerable OWLH - those with inconsistent viral suppression, concomitant psychosocial factors and partner-related barriers. We propose to further refine and develop SHAPE as an adaptive intervention strategy to improve its ability to impact viral suppression and self-care management needed to foster Healthy HIV Aging and strengthen its impact on transmission risk by developing new adaptive partner disclosure and couples-support intervention components for those OWLH who report condomless sex with serodiscordant partners.
WEAD0301
MEASURING THE IMPACT OF ADVOCACY: CIVIL SOCIETY’S INFLUENCE OVER GLOBE FUND CONCEPT NOTES IN EIGHT AFRICAN COUNTRIES
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Background: One fifth of Global Fund grants are implemented by civil society organizations. However, the degree to which non-state actors are able to shape the content of those grants through the initial concept note is uncertain and hard to measure. As a result, it is not always clear if the Global Fund is investing appropriately in communities.

Methods: Global Fund concept notes from Kenya, Malawi, Swaziland, Tanzania, Uganda, Zanzibar, Zambia and Zimbabwe were systematically measured to assess the inclusion of civil society priorities. National Civil Society Priorities Charters were used as indicators for civil society priorities. Each priority in the country’s Charter was assessed for its inclusion in the Global Fund concept using a three-point scale (2=included, 1=partially included and 0=not included).

Results: The percentage of civil society priorities that were included in Global Fund concept notes was as follows: Malawi (87%), Kenya (76%), Tanzania (67%), Zanzibar (67%), Uganda (64%), Swaziland (50%), Zimbabwe (40%) and Zambia (38%). Across the eight countries, civil society priorities on key populations were the most likely to get included in the concept notes (68%), while priorities on voluntary medical male circumcision were the least likely to get included (15%). Several contextual factors help explain these results. Using Afrobarometer survey data, civil society had greater influence over Global Fund concept notes in countries where people often attend community meetings (CI 95%, P=0.041), often join others to raise an issue (CI 95%, P=0.017) and feel completely free to say what they think (CI 95%, P=0.030). Using World Bank Governance Indicators, civil society had greater influence over Global Fund concept notes in countries where there is a greater degree of freedom of association and freedom of expression (CI 90%, P=0.083). In countries where civil society was more effective at influencing Global Fund concept notes, HIV prevalence was lower (CI 95%, P=0.021).

Conclusions: This is some of the only statistical evidence to demonstrate that open and inclusive dialogue spaces are linked to a more effective civil society in the HIV response. An empowered civil society is vital, as the inclusion of their priorities is related to lower HIV prevalence.

WEAD0302
GLOBAL SOLIDARITY TO WIN INCREASED ACCOUNTABILITY AND IMPACT FROM PEPFAR COUNTRY PROGRAMS: AN ANALYSIS OF NORTH-SOUTH COLLABORATIVE ADVOCACY STRATEGIES
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Background: The U.S.-funded President’s Emergency Plan for AIDS Relief (PEPFAR) is the largest funder of the HIV response in the hardest hit countries in the world. Holding PEPFAR accountable through civil society advocacy is a pre requisite to ensure that PEPFAR resources deliver effective, high impact prevention and treatment services for communities. After civil society criticism, in 2013 PEPFAR announced a commitment to support civil society engagement in the annual development of PEPFAR’s Country Operational Plans or COPs—the documents describing PEPFAR’s budgets, targets and strategies for each country. However in most countries in 2014, civil society (and particularly key populations) engagement in shaping the PEPFAR COPs remained limited. The PEPFAR Watch Network emerged to increase community engagement in the COPs process, and comprises US-based organizations and civil society in PEPFAR-funded countries, advocating to shape PEPFAR funding and priorities based on the priority unmet need of people living with HIV and their communities.

Description: We examine the impact of a global advocacy network of allies in high burden countries and in the US in challenging PEPFAR to increase meaningful engagement of CSOs, transparency and accountability to communities from 2014 - 2016.

Lessons learned: Health GAP and other partners in the PEPFAR Watch Network learned that applying concerted and coordinated pressure both in Washington DC and in key recipient countries to amplify demands regarding PEPFAR service delivery is an effective strategy. The unique North-South partnership allowed advocates to successfully challenge decision makers in both Washington D.C. and within PEPFAR-funded countries.

Conclusions/Next steps: PEPFAR’s stated commitment could have a substantial impact on the drive to end the AIDS epidemic, using civil society advocacy to bring PEPFAR’s priorities into alignment with the demands and priorities of people with HIV. PEPFAR investments are an area of untapped potential, which can be made more effective in the global AIDS response through the involvement of community advocates and key populations groups. High-impact watchdogging, monitoring and accountability by a North-South coalition of civil society partners can leverage new opportunities to engage with the PEPAR COPs process to ensure that critical HIV prevention and treatment services are in line with community needs.

WEAD0303
DEMANDING A HIGH IMPACT HIV RESPONSE: CIVIL SOCIETY ADVOCACY AND THE PRESIDENT’S EMERGENCY PLAN FOR AIDS RELIEF (PEPFAR) IN UGANDA
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Background: The PEPFAR programme provides treatment, prevention and care for people living with or affected by HIV/AIDS in high burden countries including Uganda where it is the largest donor. Engagement of civil society in the development and implementation of PEPFAR’s plans is therefore critical to ensuring that PEPFAR’s priorities reflect real lived experience and that the plans emphasize the priorities of communities most affected. Uganda’s faltering response to HIV makes it crucial to ensure funding is invested in high impact interventions...

Description: In Uganda, the International Community of Women Living with HIV Eastern Africa (ICWEA) coordinates and convenes CSOs in a coalition focused on analysis and advocacy on PEPFAR and other major actors the AIDS response. This coalition has engaged in a series of high impact advocacy efforts, including development of civil society monitoring tools, training and empowerment of women living with HIV so that they are able to engage the implementing partners (IPs) and other PEPFAR teams directly and demand programs that address the needs of the communities. Results of field assessments and other data are shared with the PEPFAR country teams to inform planning and programming and correct mistakes in real time. The coalition also links with advocates in the US regarding priority advocacy and policy matters.

Lessons learned: CSOs and the PEPFAR country team have engaged an expert on negotiation in line with the COP planning cycle and written information and feedback is shared regularly. CSOs provide formal recommendations to the in-country COP development and implementation process and to PEPFAR headquarters and understand better PEPFAR COP programming. Quarterly field assessments have enabled CSOs to provide feedback informed by evidence to the PEPFAR country teams and push for relevant corrective measures. The process is empowering and creates a sense of ownership to people with HIV and their communities, especially women and young women living with HIV who gather this data.

Conclusions/Next steps: ICWEA with national and global partners has developed a PEPFAR COP engagement strategy, complementing Global Fund, to generate strong and effective advocacy in order to improve accountability of donors and address bottlenecks obstructing efforts to end AIDS in Uganda.

WEAD0304
PLHIV IN THE CARIBBEAN: MANY ISLANDS, SAME ISSUES. LACK OF RESOURCES, FRAGMENTED HEALTH/CARE SYSTEMS: AN UNDER-RESOURCES COMMUNITY RESPONSE
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Background: 2014 figures: 280 000 [210 000-340 000] PLHIV in the Caribbean, However treatment coverage is only 44% (33%-54%) of people 15 years or older, 36% (32%-42%) among children. Caribbean countries continue to face economic and fiscal challenges. Global economic crises and decline or withdrawal of donor resources impact adversely on the response; nowhere is this more acutely played out...
WEAO0305
RAPID RESPONSE RESEARCH TO INFORM HIV POLICY DECISION-MAKING: LESSONS LEARNED FROM CALIFORNIA’S COLLABORATIVE HIV/AIDS POLICY RESEARCH CENTERS


Background: Responding to the HIV epidemic requires policy decisions that are well researched and informed by empirical evidence. The policy environment, however, is dynamic and fast-paced, and the opportunity to effect change may be limited to brief periods of time. To ensure research findings are ready within these “policy windows,” researchers must be able to launch and complete projects quickly. Responding to the need for research, the California HIV/AIDS Policy Research Centers have successfully addressed critical policy issues that emerged in the dynamic health policy environment.

Description: Policy research advisory committees meet annually in northern and southern California to prioritize HIV policy-related questions and concerns that would benefit from research. Following each meeting, policy center investigators formulate specific research questions and study designs based on policy research advisory committee priorities. Data for each rapid response project are then collected, analyzed, and disseminated back to policy stakeholders, ideally in six months or less.

Lessons learned: The HIV/AIDS Policy Research Centers have successfully addressed critical policy issues that emerged in California over the past seven years. These include analyses of: state budget cuts to HIV prevention; enhanced surveillance efforts on federal funding for California; mandating condom distribution in correctional facilities; the impact of the state’s Affordable Care Act implementation on HIV health documents; and 15 included plans of action for the data (Table 1).

<table>
<thead>
<tr>
<th>Location</th>
<th>Year and estimation date</th>
<th>Stakeholders</th>
<th>Interpretation and Use Plan for PSE</th>
<th>Data quality</th>
<th>PSE influence on policy and program decisions</th>
<th>Probability of success in the estimation process</th>
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<tbody>
<tr>
<td>Florida</td>
<td>2010-2011</td>
<td>FSW South Florida</td>
<td>Lay community members, health professionals</td>
<td>High</td>
<td>High</td>
<td>High</td>
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<tr>
<td>California</td>
<td>2011-2012</td>
<td>FSW Northern California</td>
<td>Community leaders, health professionals</td>
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<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Texas</td>
<td>2012-2013</td>
<td>FSW Houston, TX</td>
<td>Health professionals, lay community members</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Louisiana</td>
<td>2014-2015</td>
<td>FSW New Orleans, LA</td>
<td>Community leaders, health professionals</td>
<td>Very High</td>
<td>Very High</td>
<td>Very High</td>
</tr>
<tr>
<td>New York</td>
<td>2016-2017</td>
<td>FSW New York City</td>
<td>Lay community members, health professionals</td>
<td>High</td>
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<tr>
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<tr>
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<td>High</td>
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<tr>
<td>Greenville</td>
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<td>Very High</td>
<td>Very High</td>
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<tr>
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<td>Lay community members, health professionals</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 1: Research Utilization Indicators

Results: 71 PSE were identified; two of which were mentioned in GF Concept Notes,12 in PEPFAR Country Operational Plans, and seven in national Ministry of Health documents; and 15 included plans of action for the data (Table 1).
WEAE01 INNOVATIONS IN HIV TESTING: THE FIRST 90

WEAE0101

ACCCEPTABILITY AND PREFERENCES FOR HIV SELF-TESTING IN ZAMBIA: A POPULATION-BASED FORMATIVE STUDY USING A DISCRETE CHOICE EXPERIMENT

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Background: Uptake of HIV testing in Zambia remains low and Zambia is considering the use of HIV self-testing (HIVST) to increase awareness. We assessed acceptability and preferences for HIVST among adults in Lusaka province, Zambia.

Methods: Households in Lusaka Province were randomly selected to participate in a household survey and one member aged ≥16 years randomly selected as a respondent. Respondents were asked about perceptions and preferences around HIVST after receiving information about the Oraquick oral fluid-based test. Preferences were assessed through a Discrete Choice Experiment (DCE). The DCE contained a full factorial design with cost (free, 10 Kwacha or 25 Kwacha), location to obtain the test (PCV, clinics, pharmacies, and pre-counseling), and acceptability of counseling (up-front, post-test, and no counseling). Participants were asked to choose between different HIVST models and the attributes used in the DCE were assessed through the DCE results.

Results: Among 1,617 participants, 47% had not tested in the past year. 74% reported feeling comfortable with HIVST and 76% of those who have not tested in the past year reported they would definitely test if given a self-test. Only 2% reported having concerns serious enough to not recommend HIVST in Zambia. In the DCE, 73% of those who had testing in the past year chose HIVST over conventional modes of testing, and 88% of those who had tested in the past year chose HIVST over not testing. The most predictive attribute for a choice was presence of counseling, followed by lower cost especially for regular testers. The lowest relative preference was for location. When considering only two types of HIVST and excluding the opt-out option, participants had a negative preference for obtaining the test at VCT, as this option was found to be highly stigmatized.

Conclusions: HIVST is highly acceptable among adults in Lusaka province, Zambia. There is a strong positive preference for the provision of some counseling accompanying HIVST and for lower-cost self-tests, especially for those who were already regular testers.

WEAE0102

BENEFITS AND ADVERSE OUTCOMES OF HIV SELF-TESTING AMONG HIGH-RISK MSM IN CHINA: AN IMPLEMENTATION PERSPECTIVE

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Background: HIV self-testing (HIVST) holds great promise for reaching high-risk key populations who do not access facility-based services, but it has not been examined in the ‘real-world’ implementation context. HIVST is a process by which a person performs and interprets a test in private. We sought to describe unsupervised HIVST use among men who have sex with men (MSM) in China.

Methods: We conducted a nationwide online survey of MSM in China recruited from MSM websites and social media. Eligible men reported being at least 16 years of age, having anal sex with a man at least once, and having condomless anal vaginal sex in the past three months. We analyzed benefits (e.g., first-time testing, increased testing frequency, post-testing counseling) and adverse outcomes (e.g., coercion, violence, suicidality) among MSM using HIVST. We compared MSM whose first-time HIV test was a self-test (first-time HIVST) to those whose first-time test was at a facility and assessed correlates using multivariable logistic regression.

Results: Among 1,685 eligible men who clicked the banner, 1,189 men completed the survey. 28.7% (341/1189) of men reported ever using HIVST. The most common place to obtain an HIVST kit was online (171/341, 50.1%). Among those who had used HIVST, 58.7% (200/341) reported their first-time HIV test using HIVST. Multi-variable analysis found that first-time HIV testing using HIVST was correlated with younger age (adjusted OR = 1.05, 95% CI 1.02, 1.08) and men who had not disclosed MSM behaviors to anyone (adjusted OR=2.24, 95% CI 1.57, 3.22). The most common adverse outcome was coercion (31/341, 9.1%). 40/341 (11.7%) of those who underwent HIVST reported a positive HIV self-test. Among men with a positive self-test, 30/40 (75.0%) received post-test counseling and 31/40 (77.5%) received subsequent confirmatory HIV testing. Among men with a negative self test, 134/301 (44.5%) received post-test counseling and 118/301 (39.2%) confirmed their results.

Conclusions: HIVST is common among Chinese MSM. A substantial portion of them have never previously tested, particularly younger MSM that are not open about their orientation. However, coercion and lack of subsequent test confirmation have been reported. Further implementation research is needed to better understand HIVST outside of research programs.

WEAE0103

“NOT WITHOUT US...”: VIEWS ON THE INTRODUCTION OF HIV SELF-TESTING AMONG HEALTH CARE WORKERS PROVIDING INTEGRATED HIV AND SEXUAL AND REPRODUCTIVE HEALTH SERVICES

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Background: HIV self-testing (HIVST) has potential to increase uptake of HIV testing. Its success depends on various stakeholders’ support, including health care workers (HCW). In preparation for adoption and scale-up of HIVST in Zimbabwe we explored HCW views on HIVST.

Methods: Between December 2015 and January 2016, focus group discussions (FGDs) were held with HCWs providing integrated HIV and sexual & reproductive health services at two Population Services International (PSI) Clinics in Harare and Chitungwiza. Discussions were audio-recorded, transcribed, translated and analyzed thematically.

Results: Four FGDs were held with 10-13 HCWs each, including 18 nurses, 14 Counsellors, 4 lab technicians, and 6 administrative staff (total=43). HCW had mixed feelings about HIVST. While they generally believed that HIVST can increase testing uptake among men, well-to-do clients and those living in hard-to-reach areas, a recurrent theme was that HIVST poses a threat to HCW jobs. All cadres believed that jobs of HCW who primarily provided counselling were most threatened. HCWs providing other clinical duties (family planning, cervical cancer screening and ART) were perceived to be safer. HCWs had mixed views on whether self-testing would lead to optimised linkage to post-test services. Additionally, it was perceived that while HIVST might be cheaper, this was likely further justification for job losses. The potential for social harms (domestic violence, suicide, and forced-testing) was widely discussed. HCW described fear that devices showing negative results could be ‘traded’ and used to deceive partners of HIV-positive individuals. A good HIVST program was viewed as one which worked with existing health delivery structures and centred on continued HCWs involvement, including counselling before and after testing, and storage of kits by HCWs - thought important due to fears that kits could find their way into uncontrolled informal markets. Educating the community about HIVST was highly recommended.

Conclusions: The potential for HIVST to increase testing uptake, and to be cost effective, is appreciated by HCWs. There is need to educate HCWs on how HIVST can enhance rather than compete with their roles, with less testing of HIV-negatives HCWs can focus on care, support and retention of HIV-positives, leading to better targeting of resources.
WEAE0104
INDEX CLIENT TRAILING: A HOME-BASED HIV COUNSELLING AND TESTING STRATEGY TO IDENTIFY AND LINK PEOPLE LIVING WITH HIV TO TREATMENT

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Background: UNAIDS has set targets that 90% of people living with HIV should know their HIV status and 90% of these should receive antiretroviral treatment by 2020. Implementing innovative programs to help achieve these ambitious targets in sub-Saharan Africa, the epicentre of the global AIDS epidemic, are essential. We report on results of an innovative program in which home-based HIV counselling and testing is offered to household members of known HIV positive clients in South Africa.

Methods: Consenting HIV positive clients (index clients) identified at primary health-care centres in three high HIV prevalence districts were visited at their homes by lay community-based healthcare workers. Consenting household members of index clients received HIV-related education and counselling and testing. Household members testing HIV positive also received symptom screening for tuberculosis and were referred to HIV care and treatment facilities. The proportions of household members testing HIV positive and proportions linked to treatment facilities over a 14 month period during 2014-2015 were calculated.

Results: 14,779 index clients were visited in their homes. 66,766 household members received HIV-related education and counselling (4.5 household members per index client). Amongst these, 59,457 (89.1%) consented to HIV testing (91% and 81% of counselled females and males consented to HIV testing, respectively). Amongst those tested, 9,219 (15.5%) were found to be HIV positive. Amongst people testing HIV positive, 8,642 (93.7%) were successfully linked to HIV care and treatment facilities. 97.0% of those testing HIV positive received tuberculosis symptom screening, of whom 21.3% were symptom positive. Amongst 2837 children who received HIV testing, 70 (2.5%) were HIV positive and 100% were successfully linked to treatment facilities.

Conclusions: Index client trailing utilizing home-based HIV testing by lay healthcare workers in a high HIV prevalence setting resulted in a high uptake of HIV testing, a comitant tuberculosis, and a high proportion of adults and children were successful to care and treatment. The proportion of clients achieving high linkage rates to care for HIV-infected children. ICAP provided training on provider-initiated HIV testing and counseling (PITC) using a quality improvement collaborative strategy at 24 health facilities in Tanzania.

WEAE0105
RESULTS OF A CLUSTER-RANDOMISED TRIAL OF NON-FINANCIAL INCENTIVES TO INCREASE UPTAKE OF COUPLES COUNSELLING AND TESTING AMONG CLIENTS ATTENDING PMTCT MOBILE HIV SERVICES IN RURAL ZIMBABWE

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Background: Couples HIV testing (CHTS) is associated with greater uptake of HIV prevention/care and is more cost-effective than individual testing, but its uptake remains sub-optimal. Broaching CHTS often results in accusations of infidelity/distrust. Formative research suggests that incentives may mitigate this by changing focus of the pre-test discussion. We investigated the effectiveness of non-financial incentives to increase CHTS uptake among clients accessing PSIs outreach HTS in rural Zimbabwe.

Methods: Sixty-eight rural communities in four districts were randomized 1:1 to incentives or no incentives following formative research on nature of incentives that might stimulate CHTS. In intervention communities, information was promoted that there is need to find better ways of supporting couples with positive/discordant HIV diagnosis. Those with partners, odds ratio 6.88(95%CI:4.86-9.72). HIV prevalence was 9.9%(95%CI 8.2-11.8%) and 6.9%(95%CI 6.1-7.8%) among couple-testers and individual-testers respectively; 85% of couple-testers had discordant results. 413/697 (59%) eligible participants (176 couples) completed the telephone survey. Motivators for CHTS included desire to know each other’s partner’s status, (93%), incentives (37%) and planning a pregnancy (30%); 22% in incentive arm said they would not have tested without the offer of incentives. Relationship unrest was reported by 8 individuals (1.9%) in the telephone survey, 6 in incentive arm although none attributed this to incentives. Nine individuals (2.2%) regretted testing with partner, of whom 4 tested because of incentives. 65.9% said testing programs should offer incentives.

Conclusions: Small incentives are a potentially scalable way to increase CHTS uptake. Although incentives were not reported to cause relationship disharmony, there is need to find better ways of supporting couples with positive/discordant HIV diagnosis.

WEAE0106B
REACHING THE FIRST 90: IMPROVING COVERAGE OF INPATIENT PEDIATRIC PROVIDER-INITIATED HIV TESTING AND COUNSELING (PITC) USING A QUALITY IMPROVEMENT COLLABORATIVE STRATEGY AT 24 HEALTH FACILITIES IN TANZANIA

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Background: Tanzania’s pediatric HIV testing and treatment rates are suboptimal. Provider-initiated HIV testing and counseling (PITC) is necessary to identify and treat HIV-infected children, and expanding pediatric PITC services is a national priority. Despite rollout of guidelines and training, PITC has not been consistently implemented.

Methods: 9,721 participants tested; 5652 (58.1%) were in incentives community and 4069 (41.9%) in non-incentive community. Of 9,721 participants tested; 5652(58.1%) were in incentives communities, 48.5% and 10.6% in incentive and non-incentive arms respectively tested with partners, odds ratio 6.88(95%CI:4.86-9.72). HIV prevalence was 9.9%(95%CI 8.2-11.8%) and 6.9%(95%CI 6.1-7.8%) among couple-testers and individual-testers respectively; 85% of couple-testers had discordant results. 413/697 (59%) eligible participants (176 couples) completed the telephone survey. Motivators for CHTS included desire to know each other’s partner’s status, (93%), incentives (37%) and planning a pregnancy (30%); 22% in incentive arm said they would not have tested without the offer of incentives. Relationship unrest was reported by 8 individuals (1.9%) in the telephone survey, 6 in incentive arm although none attributed this to incentives. Nine individuals (2.2%) regretted testing with partner, of whom 4 tested because of incentives. 65.9% said testing programs should offer incentives.

Conclusions: Small incentives are a potentially scalable way to increase CHTS uptake. Although incentives were not reported to cause relationship disharmony, there is need to find better ways of supporting couples with positive/discordant HIV diagnosis.

[6% of children and adolescents admitted to inpatient wards who received HIV PITC and received results and 6% of rapid test kit (RTK) stock outs]
**WEAE02 TARGET 90-90-90: THE UPS AND THE DOWNS**

**WEAE0201 CURRENT STATE OF THE GLOBAL HIV CARE CONTINUUM**

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**Background:** In 2014, UNAIDS issued the 90-90-90 HIV response targets: by 2020, 90% of individuals living with HIV will know their HIV status, 90% of people with diagnosed HIV infection will receive ART, and 90% of those taking ART will be virally suppressed. Consistent methodology and routine reporting in the public domain is necessary for tracking progress towards the 90-90-90 targets.

**Methods:** For 2011-2015, we searched PubMed, UNAIDS country progress reports, WHO/UNAIDS reports, national surveillance and program reports, and conference presentations and/or abstracts for the latest available national HIV care continuum and estimation methods. We ranked continuum with described estimation methods for indicators to derive high, medium and low quality continuum.

**Results:** We identified 48 national care continuum in the public domain representing 58% of the 2013 global estimate of people living with HIV available. Eleven continuum were excluded from further analysis for either not providing estimates of viral load or substantial problems with representativeness. Of the remaining 37, four (with < 1% of global burden) were high quality, using standard surveillance methods to derive an overall denominator and program data from national cohorts for estimating steps in the continuum. Of the 37 countries with adequate data, the average proportion of the aggregate of people living with HIV from all countries receiving ART was 37%, and virally suppressed was 29%. Care continuum from only six countries in sub-Saharan Africa were available.

**Conclusions:** Relatively few complete national continuum are available in the public domain and there is a wide variation in methodologies for describing progress towards treatment and viral suppression targets. Standardized continuum of care monitoring and evaluation based on a national program cohort of everyone living with diagnosed HIV would be a major step towards improving the use of scarce resources to achieve 90-90-90 through improved efficiency, transparency, accountability and impact.

**WEAE0202 SAME-DAY HIV TESTING AND ANTIRETROVIRAL THERAPY INITIATION RESULTS IN HIGHER RATES OF TREATMENT INITIATION AND RETENTION IN CARE**

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**Background:** High rates of pre-ART attrition are widely reported. Retention may be improved if pre-ART services could be effectively provided in one day.

**Methods:** We conducted a randomized study comparing standard and same-day ART initiation for adult patients (age >17 years) who presented for HIV testing with WHO stage 1 or 2 disease and CD4 count s500 cells/mm3 at GHESKIO in Port-au-Prince, Haiti. All participants received same-day HIV and CD4 count testing, TB screening, and physician evaluation. The standard group initiated ART at the third follow-up visit (day 21); the same-day group initiated ART on the day of presentation. The only difference in services provided was the timing of ART initiation. Participants were followed for 12 months.

**Results:** Between August 2013 and October 2015, 762 participants were randomized to standard (n=384) or same-day ART (n=378) (see Table 1). Twenty-four percent of the participants in the standard and 18 in the same-day ART group transferred during the study period, and were removed from all analyses; this left 360 participants in each group. ART was initiated within 90 days in 329 (91%) of participants in the standard and 100% in the same-day ART group. In the standard group, 212 participants (%73) were retained, 17 (6%) died, 56 (19%) were lost to follow-up (LTFU), and 5 (2%) were late returners. In the same-day ART group, 230 participants (80%) were retained, 8 (3%) died, 46 (16%) were LTFU, and 3 (1%) were late returners. Twelve-month retention was higher in the same-day ART group (p=0.046).

**Conclusions:** Same-day ART is associated with higher rates of ART initiation and retention, compared with standard ART initiation. These findings suggest that immediate ART is feasible in PEPFAR “Test and Start” recommendations.

| Table 1: Outcomes for Participants in the Standard and Same-Day ART Groups |
|------------------|------------------|------------------|------------------|
| **Baseline Characteristics** | **Standard Group (n=360)** | **Same-Day Group (n=360)** | **p-value** |
| **Female sex - no. (%)** | 183 (51%) | 169 (47%) | 0.296 |
| **Age - mean (SD)** | 38 (10) | 38 (10) | 0.296 |
| **CD4 count - mean (SD)** | 244 (129) | 241 (124) | 0.781 |
| **Pre-ART Outcomes** | | | |
| Completed CD4 count - no. (%) | 360 (100%) | 360 (100%) | --- |
| Initiated ART within 90 days after HIV testing - no. (%) | 329 (91%) | 360 (100%) | <0.001 |
| **Outcomes 12-Months Post-ART** | | | |
| Retained in care - no. (%) | 212 (73%) | 230 (80%) | 0.046 |
| Late returners - no. (%) | 5 (2%) | 3 (1%) | 0.486 |
| Lost to follow-up - no. (%) | 56 (19%) | 46 (16%) | 0.302 |
| Died - no. (%) | 17 (6%) | 8 (3%) | 0.062 |

[Proportion of people living with HIV with diagnosed infection versus those on antiretroviral treatment (ART)]
WEAE0203
TOWARDS THE LAST 90% OF THE 90-90-90 STRATEGY: A REVIEW OF VIRAL SUPPRESSION RATES IN A HIV PROGRAMME IN CENTRAL AND EASTERN KENYA

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Background: 1.6 million Kenyans live with HIV with 101,560 infected annually. Kenya has adapted UNAIDS’ 90-90-90 initiative under the Kenya AIDS Strategic Framework and the Acceleration plan for HIV Care and Treatment. To monitor the last 90%, Kenya introduced viral load (VL) monitoring, with VLs done for clients after 6 months and 12 months on ART then annually thereafter. Health facilities submit samples to two national laboratories, one doing the Dry Blood Spot (DBS) and the other frozen plasma. Viral suppression is defined as VL less than 1000 copies/ml.

Description: APHILAPUS KAMILI, a PEPFAR/USAID funded project, is led by Jhpiego and supports care and treatment in 142 facilities in Eastern and Central Kenya. As of December 2015, the project supported 35,132 clients on ART, 9.5% (3,332) of whom were children under 15 years. To launch VL monitoring, APHILAPUS KAMILI sensitized providers on specimen collection, patient follow-up and financed specimen transport to laboratories. Results are posted online and hard copies sent to facilities. This review analyzed VL results from January to December 2015 obtained from the National VL Laboratories database.

Lesson learned: A total of 24,030 samples were sent to laboratories. In this review, we excluded results with any incomplete entry (age, sex, results) and all rejected samples. 15,253 samples had complete data for review. The crude viral suppression rate was 84% (12,750) with 16% (2,503) above 1000 copies/ml. 84% (8,864) of women and 82% (3,886) of men were suppressed (P-value 0.003). Viral suppression classified by age went from 77% (2,665) for children age below 15 years and 85% (10,091) for clients aged above 15 years (P-value<0.001). Viral suppression for client type ranged from 68% among pregnant women, 77% suspected clinical failure, 82% immunological failure and 84% for routine VL monitoring (P-value=0.006).

Conclusions/Next steps: The sites reviewed achieved fairly high levels of viral suppression among those clients who received VL testing, but are still below 90% for all populations. Viral suppression is higher among non-pregnant adults than among children, adolescents and pregnant women; these populations may need additional adherence support. The high suppression rates among clients with suspected treatment failure warrant additional investigation.

WEAE0204
ELIMINATING CD4 THRESHOLDS IN SOUTH AFRICA WILL NOT LEAD TO LARGE INCREASES IN PERSONS RECEIVING ART WITHOUT FURTHER INVESTMENT IN TESTING, LINKAGE AND INITIATION

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Background: It is hoped that eliminating CD4 count thresholds for ART eligibility will increase the number of HIV-infected persons receiving therapy and reduce transmission of HIV. However, little is known about the impact of relaxing eligibility thresholds on uptake of ART.

Methods: Clinical records were analyzed for all patients presenting for HIV care in the Hibisaba sub-district public sector ART program. We estimated the distribution of first CD4 counts for patients presenting in 2013 (Figure, left). We then estimated the conditional probability of ART initiation within six months for each CD4 count under two counterfactual states of the world (Figure, right): if CD4-eligible and if not CD4-eligible. Multiplying the conditional probabilities by the distribution of CD4 counts, we estimated the probability that a person would initiate ART under expanded guidelines (CD4>500, or elimination of CD4 criteria) and under older guidelines (CD4>350).

Results: In 2013, 20.0% of patients presented at 350-500 cells and 38.9% >500 cells. 8.4% of patients 350-500 cells and 8.0% of patients >500 cells would have initiated ART under the old guidelines. 29.7% of patients 350-500 cells and 19.2% of patients >500 cells would initiate ART if CD4 criteria were eliminated. 62.1% of patients at 350-500 cells and 72.8% >500 cells are not expected to initiate under expanded guidelines despite being eligible. If these numbers hold nationally, then South Africa can expect 130,000 additional initiators per year from raising the threshold to 500 and a further 164,000 initiators per year from eliminating CD4 criteria, representing a 5% increase in persons on ART.

Conclusions: Removing CD4 criteria alone, without improving HIV testing, linkage, and ART initiation procedures, will not achieve the country’s 90-90-90 targets.

WEAE0205
FIRST-YEAR INTERVENTION OUTCOMES OF THE BUKOBA TANZANIA COMBINATION PREVENTION EVALUATION: PROMISING HIV TESTING & LINKAGE-TO-CARE METHODS TO ACHIEVE 90-90-90

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Background: In an urban lake-zone district of 129,000 people, the Bukoba Tanzania Combination Prevention Evaluation (BCPE) aims to increase antiretroviral therapy (ART) coverage among eligible HIV-infected adult residents from an estimated 34% in 2013 to 80% after a two-year intervention. First-year objectives to achieve this aim include conducting 45,000 HIV tests among adults (18,000 among men), registering 1,360 persons for HIV care, and initiating ART on 90% of eligible patients (CD4 < 350). This abstract summarizes BCPE first-year intervention outcomes, October 2014-September 2015.

Description: BCPE interventions include provider-initiated (PITC) and community-based (CBHTC) HIV testing and counseling (HTC) and integrated linkage case management (LCM). Conducted in 11 outpatient-department clinics, PITC includes routine eligibility screening and referral for on-site HTC. CBHTC is offered at homes and male-frequented venues throughout the district. Provided to consenting HIV-infected out-of-care clients for up to 90 days, LCM includes escort and expedited transport to laboratories. Results are posted online and hard copies sent to facilities. This review analyzed VL results from January to December 2015 obtained from the National VL Laboratories database.

Lesson learned: A total of 24,030 samples were sent to laboratories. In this review, we excluded results with any incomplete entry (age, sex, results) and all rejected samples. 15,253 samples had complete data for review. The crude viral suppression rate was 84% (12,750) with 16% (2,503) above 1000 copies/ml. 84% (8,864) of women and 82% (3,886) of men were suppressed (P-value 0.003). Viral suppression classified by age went from 77% (2,665) for children age below 15 years and 85% (10,091) for clients aged above 15 years (P-value<0.001). Viral suppression for client type ranged from 68% among pregnant women, 77% suspected clinical failure, 82% immunological failure and 84% for routine VL monitoring (P-value=0.006).

Conclusions/Next steps: The sites reviewed achieved fairly high levels of viral suppression among those clients who received VL testing, but are still below 90% for all populations. Viral suppression is higher among non-pregnant adults than among children, adolescents and pregnant women; these populations may need additional adherence support. The high suppression rates among clients with suspected treatment failure warrant additional investigation.
first-visit care at 9 HIV clinics, and counseling on HIV care and disclosure. Outcomes of HTC and LCM clients whose cases were closed through September 2015 were compiled and analyzed.

Lessons learned: Of 56,907 HIV tests conducted, 48,752 (86%) were among adults ≥15 years of age, 18,648 tests among adult males. PTC accounted for 64% of tests and 79% of 2,922 HIV-infected out-of-care persons identified (86% newly HIV-diagnosed). Of 1,519 (75%) clients of closed LCM cases (516 clients were still under management at compilation), 1,369 (90%) had registered for HIV care, of whom 50% were initiated on ART. Similar percentages of HIV-infected out-of-care women and men consented to LCM, registered for care, and were initiated on ART (Table).

WEAE026LB
LINK4HEALTH: A CLUSTER-RANDOMIZED CONTROLLED TRIAL EVALUATING THE EFFECTIVENESS OF A COMBINATION STRATEGY FOR LINKAGE TO AND RETENTION IN HIV CARE IN SWAZILAND
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Background: Gaps in the HIV care continuum contribute to suboptimal individual health outcomes and increased HIV transmission. Practical interventions targeting known barriers to care are needed.

Methods: Link4Health, a cluster-randomized controlled trial, evaluated the effectiveness of a combination intervention strategy (CIS) versus standard of care (SOC) on the combined outcome of linkage to care within 1 month and retention in care at 12 months after HIV diagnosis. CIS included: point-of-care CD4 at the time of HIV+ test, accelerated antiretroviral treatment for adults with CD4<350 cells/µl, mobile phone appointment reminders, health educational packages, and non-cash financial incentives. Ten study clinics in Swaziland, each consisting of a network of affiliated HIV clinics, were randomized to CIS versus SOC. Adults ≥18 years newly tested HIV+ and willing to receive HIV care at the study unit were enrolled from August 2013-November 2014 and followed for 12 months.

Results: A total of 2201 individuals were enrolled (1100 CIS arm; 1101 SOC arm). The majority were female (59%); median age was 32 years (IQR 26-40). In intention-to-treat analysis, 64% (705/1100) adults at CIS sites achieved the primary outcome versus 43% (477/1101) at SOC sites (relative risk (RR) 1.45, 95% CI 1.34-1.56, p<0.0001); and lower death before ART initiation (1% versus 2%, RR 0.44, 95% CI 0.21-0.91, p<0.02). A higher proportion of those lost to follow-up at 12 months were pre-ART compared to ART patients. The effectiveness of the CIS intervention did not differ by age, sex, distance to clinic or clinic type.

Conclusions: A combination strategy of pragmatic evidenced-based interventions, aimed at gaps in the HIV care continuum, was associated with a 50% increase in prompt linkage to care and 12-month retention. This strategy offers promise for enhanced outcomes among HIV-infected patients and for decreased transmission to others.
WEAE0302

VIRAL LOAD CASCADE AND PROGRAMMATIC CHALLENGES AFTER 2 YEARS OF Routine HIV VIRAL LOAD TESTING IN MAPUTO, MOZAMBIQUE

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Background: Medecins Sans Frontieres (MSF) together with the Ministry of Health (MoH) introduced routine viral load (VL) monitoring in December 2013 for ART-eligible patients in Maputo city, Mozambique. This analysis aims to describe, the VL cascade outcomes and the programmatic challenges of routine VL monitoring and counseling intervention after 2 years of implementation.

Methods: A retrospective cohort study design with routine program data was used. The study was conducted between July 2013 and March 2015 in six MSF supported health centres in Maputo city where routine VL monitoring with enhance adherence counselling (EAC) for patients with detectable VL (≥3000 cp/mL as per national guidelines) was implemented. All HIV patients more than 6 months on ART were included in the study. Data was analysed using Stata software version 14. Percentages (%) were calculated to report coverage detectability at first VL, coverage of EAC, VL re-suppression and switch to second line treatment.

Results: Among 45591 ART eligible patients, 14026 (30.8%) had at least one VL. Median age was 37.5 years (24-53), 91.4% were above 15 years and 76.3% were female. Detecetability rate was 19.8% (2617) at VL<3000 and 27.5% (1356) at VL>10000 cp/mL. 34.5% of patients <15 years had a VL ≥3000 compared to 17.5% of adults ≥15 years. 702 (26.8%) high VL patients did at least one EAC session. 669 (36%) patients with 34.5% of patients < 15 years had a VL ≥3000 compared to 17.5% of adults ≥15 years. Median age was 37.5 years (24-51), 91.4% were above 15 years and 76.3% were female.

Conclusions: Routine VL monitoring remains low after 2 years. The implementation of routine VL requires a multi-sectorial approach and a well-established VL flow. Outcomes reveal high failure rate and the importance of implementing early adherence interventions to prevent developing of treatment failure, specifically for children and adolescents. Access to second line ART for patients in failure is still ensured. Ensuring access to second line should be a priority alongside ensuring patients with low VL are fast tracked into a differentiated model of care.

WEAE0303

ROLL OUT OF TARGETED VIRAL LOAD TESTING IN TWO RURAL DISTRICTS WITHIN MASVINGO PROVINCE, ZIMBABWE

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Background: Following the World Health Organization’s recommendation of viral load (VL) testing as the preferred approach for monitoring anti-retroviral therapy treatment outcomes, the Zimbabwe Ministry of Health and Child Care (MoHCC), with support of the medical relief organization SolidarMed, committed to improve access to targeted VL (TVL) testing, thus offering VL testing to patients with suspected treatment failure.

Description: After training of Healthcare Workers (HCWs), TVL testing, as defined in the national guidelines, was newly introduced to all 48 health facilities (HF) in two districts in Masvingo Province in 2013. With limited access to VL measurements nationally, specimens were collected as Dried Blood Spots and processed at an accredited laboratory in South Africa (SA) using bioMerieux-Platform. Samples were collected at four hospitals within the districts, transported via existing sample transportation networks, and sent to SA by courier. Results were communicated back within two weeks via secured web-link to the central hub in Masvingo, and distributed to the sites. Bi-monthly clinical mentoring visits to HF took place.

Lessons learned: High sample success rate (99%), short turnaround time (TAT) of test-results, and moderate costs ($USD25/sample, all-inclusive) were major advantages of this approach. Low proportion of patients identified for TVL based on routine clinical and immunological screening by HCWs, and low percentage of repeat VLs done, remain concerning.

WEAE0304

DRIED BLOOD SPOTS PROVIDE ACCURATE ENUMERATION OF HIV-1 VIRAL LOAD IN EAST AFRICA

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Background: HIV-1 viral load monitoring of antiretroviral therapy (ART) confirms treatment efficacy and facilitates timely switching to second line regimens. However, collection of plasma for ART monitoring requires phlebotomy, controlled transport conditions and is costly, thereby limiting its use in community-based settings. The use of dried blood spot (DBS) cards to collect finger-prick blood, and transport specimens at ambient temperature to a central laboratory for viral load testing would simplify monitoring but requires validation against the gold standard method of plasma testing.

Methods: In a randomized study of pre-exposure prophylaxis (PrEP) among HIV serodiscordant couples in Kenya and Uganda (the Partners PrEP Study), HIV-infected participants provided EDTA plasma and DBS specimens at the same visit. The Abbott RealTime HIV-1 assay was used to measure viral load in plasma (limit of quantification (LOQ): 80 copies/mL) and a modified assay was used for DBS whole blood specimens (LOQ: 520 copies/mL); all testing was done on samples transported to the University of Washington. We selected 165 HIV-positive participants including 34 men and women on ART, and 131 not on ART across a range of CD4 count categories. The plasma and DBS viral load results were compared using Bland-Altman plots and two by two tables.

Results: The median viral load was 3.49 and 3.10-log10 copies/mL for plasma and DBS, respectively. The mean difference between plasma and DBS specimens was 0.17-log10 copies/mL (CI: 0.08 to 0.26-log10 copies/mL). The correlation between plasma and DBS results was 0.85 (p<0.0001). At the WHO viral suppression threshold of <1000 copies/mL in plasma and <624 copies/mL in DBS, the sensitivity and specificity of DBS was 87% and 86%, respectively, with positive and negative predictive values of 46% and 98%, respectively, for detecting treatment failures in a population with 13% virological failures. There were no significant differences by gender, CD4 count, or ART use.

Conclusions: DBS specimens provide a highly comparable result to plasma viral load and thus might be used for population-based ART monitoring. DBS and plasma specimens should be compared in the field to determine the appropriate threshold and optimal predictive values for identifying treatment failures in decentralized settings.
WEAE0305

MONITORING OF HIV-1 RNA WITH POINT-OF-CARE CEPHIED XPERT HIV-1 VIRAL LOAD IN RURAL AFRICAN COMMUNITIES IS FEASIBLE AND RELIABLE IN THE ERA OF BROAD SCALE UP OF ART

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Background: Increasing scale-up of ART necessitates routine HIV-1 viral load (VL) testing for monitoring treatment failure and adherence. In rural settings, laboratory-based VL testing remains challenging (insufficient access to laboratory facilities, cold chain, sample transportation), and delays in result reporting may negatively impact the HIV treatment cascade. Point-of-care (POC) VL testing has the potential to alleviate these challenges, particularly in rural communities.

Methods: We compared the performance of the Cepheid Xpert HIV-1 VL (POC assay) against the Abbott m2000sp/m2000rt (Abbott assay). ART-naïve individuals (n=168) in 12 rural communities participating in the Botswana Combination Prevention Project provided EDTA blood specimens during household surveys. POC assay testing was completed in mobile community-based facilities, while the Abbott assay was performed in the reference laboratory. Bland-Altman and Passing-Bablok regression were used to test for systematic and proportional differences. Correlation analysis was performed using the Spearman rank test.

Results: We found very high correlation between the POC and Abbott assay results (r=0.89). The POC assay results were 0.46 log10 (95% CI: -0.38-1.31; Figure 1A) higher than the Abbott on average, but this difference was not significant. In contrast, Passing-Bablok regression, no proportional bias was observed (slope=0.97; 95% CI: 0.91-1.03; Figure 1B), but a test for systematic bias was significant (intercept=0.58; 95% CI: 0.34-0.82). Agreement of 96%, 93% and 88% was found at the 40, 400 and 1000 copies/mL thresholds, respectively. Seven samples with VL between 50-115 copies/mL on the POC assay were below the limit of detection with the Abbott assay. One sample with undetectable VL on the POC assay had VL of 66 copies/mL with the Abbott assay.

Conclusions: The Xpert HIV-1 VL assay showed high agreement and high accuracy compared to the standard laboratory-based method of VL testing. This POC assay is a promising tool for monitoring ART scale-up in rural communities.

WEAE0306LB

USING EPIDEMIOLOGY AND COLLABORATIVE FUNDING TO ENABLE INNOVATION IN OPPORTUNISTIC SCREENING TO REDUCE THE LATE DIAGNOSIS OF HIV; INTERIM RESULTS FROM A TARGETED PRIMARY CARE PROJECT IN ENGLAND (UK)

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Background: The estimated percentage of diagnosed HIV in England remains below the UNAIDS target and rates of late HIV diagnosis remain high. In 2015 Public Health England (PHE) and the Elton John AIDS Foundation (EJAF) collaborated to co-fund a project aimed at increasing HIV testing in geographical areas with high incidence of HIV and high rates of late HIV diagnosis. PHE undertook an epidemiological analysis of large urban areas in England to select potential areas to run the intervention. This approach ensured investment was targeted to achieve the greatest impact.

Methods: The selected intervention targets new patients registering with primary care services in high HIV prevalence districts of a large city in the north of England, offering them routine Blood Borne Virus (BBV) testing. The project has developed innovative promotional resources in languages targeting those most at risk (Czech, Tigrigna and Arabic) and targeted training to enable staff to deliver the intervention. Local primary care teams have also developed a new digital prompt protocol aimed at increasing HIV testing in patients presenting with associated clinical indicator illnesses.

Results: During the first five months of implementation 31 primary care practices were enrolled in which 8,401 eligible new patients between the ages of 16-65 were registered. So far 39% (1,166) of patients have been offered tests for HIV, HBV and HCV, of those, 87% (1,405) were tested. Of those tested there were five, nine and four positive results for HIV, HBV and HCV respectively representing positivity rates of 0.36%, 0.64% and 0.28%.

Conclusions: Using collaborative funding approaches targeted at the areas of high burden of infection/late diagnosis shows high impact. Interim findings demonstrate positivity rates higher than the background diagnosed prevalence’s for those areas and high test uptake rates demonstrate good patient acceptability. Feedback so far has indicated that the scheme and associated training has increased healthcare workers’ awareness and confidence in offering BBV screening. Development of an effective digital prompt tool will allow clinical staff to identify individuals at risk more easily. Resources developed are of national and international relevance and show that specific targeting of limited funding in high prevalence areas is effective.
and flow cytometric staining with class II tetramers confirmed the restriction. TCR sequencing was conducted from class II tetramer-sorted cells.

**Results:** Our detailed analysis demonstrates the existence of Gag-specific CD8+ T cell responses restricted by HLA-DR, which exhibit potent cytolytic functions that are comparable to class I-restricted cytotoxic T lymphocytes. The HLA-DR-restricted CD8+ T cells were monomorphic and efficiently lysed HIV-infected autologous CD4+ T cells and macrophages (p<0.01). Although these responses are rare, detected in only 3% of HIV controllers screened, in one individual it was the most immunodominant CD8+ response encompassing 12% of total CD8+ T cells directly ex vivo (in the absence of T cell expansion). Moreover, these HLA-DR-restricted CD8+ T cells showed atypical patterns of TCR usage that were characterized by two different co-expressed TCR alpha chains, and intriguingly, a single TCR beta clonotype that was shared with CD4+ T cells targeting the same peptide-HLA class II complex. Indeed, TCR beta clonotype TRBV2 was shared between 100% of CD8+ and 73.9% of CD4+ targeting the DR11-Gag41 complex, with 2/27 sequences identical in VDJ and CDR3 motifs.

**Conclusions:** These data not only reveal the presence of atypical CD8+ T cells gov erned by unusual TCR cross-reactivity in HIV infection, but may also have relevance for future CMV vector-based HIV vaccines as they move into Phase 1 trials in humans, where their ability to induce unconventional CD8 T cells remains unknown.

**WEPOA0103**

**PRESENCE OF HIV-1C BROADLY NEUTRALIZING ANTIBODIES IN PREGNANCY AND AT DELIVERY**

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**Background:** HIV neutralizing antibody assays are now being widely employed in different laboratories in search for correlates of protective immunity. There are strong arguments in favor of a beneficial role of some broadly neutralizing antibodies in prevention of HIV infection if these antibodies exist prior to exposure. The neutralizing antibodies could be useful in immunotherapy.

**Methods:** Archived plasma samples collected from 54 mothers at recruitment, before and after delivery from a PACTCT study were assayed for presence of neutralizing antibodies using T20 HIV-2 vectors. The participating mothers were divided into HIV transmitters and non-transmitter, indicated at delivery. The virus panel comprised of reference strains (92TH021 and MA22- clade AE; 92BR020- clade B; and 93IN005, ZA012, ZM651- clade C), and results were expressed as the plasma inhibition dilution causing 50% or 90% reduction in viral replication.

**Results:** Plasma samples were from 21 non-transmitters and 33 transmitters. Non-transmitters compared to the transmitting mothers had 332 CD4+ cells/μl and 103 024 HIV RNA copies/ml compared to 321 CD4+ cells/μl and 158 164 HIV RNA copies/ml, respectively. Broadly neutralizing antibodies were present in baseline plasma from both HIV-1 transmitters and non-transmitters. When a more stringent cut off value for the neutralizing activity was applied, a decline in the potency and breadth of neutralization was observed in only 2 plasmas showing high 90% infection inhibition of 3 out of 7 strains. Potent neutralizing antibodies to the South African strain (ZA012) were more frequently detected among the non-transmitting mothers. Neutralization titers were significantly higher in non-transmitters for 90% inhibition of the subtype C strains, 93IN005 (p<0.001) and ZM651 (p<0.014), and for 90% inhibition of 92TH021, MA22, 92BR020 and 93IN005 (p=0.001), ZM651 (p=0.006).

**Conclusions:** Despite an overall reduced potency at 90% infection inhibition, non-transmitting mothers had significantly higher potency and breadth (cross-clade neutralization) for 90% viral inhibition at delivery compared to the transmitting mothers. These results provide evidence of the presence of HIV-1 broadly cross-neutralizing antibodies during pregnancy and at delivery that directly could be utilized in the management of HIV infection hence contribute to reduced mother to child transmission.
WEPO0104

PML/TRIM19-DEPENDENT INHIBITION OF RETROVIRAL REVERSE-TRANSCRIPTION BY DAXX

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Background: PML (Promyelocytic Leukemia protein), also known as TRIM19, belongs to the family of tripartite motif (TRIM) proteins. PML is mainly expressed in the nucleus, where it forms dynamic structures known as PML nuclear bodies that recruit many other proteins, such as Sp100 and Daxx. While the role of PML/TRIM19 in antiviral defense is well documented, its effect on HIV-1 infection remains unclear.

Methods: HeLa or MEF cells derived from wt or PML KO mice were transduced with GFP-encoding vectors derived from HIV-1, SIV, ELAV and MLV. Human T lymphocytes were infected with HIV-1. PML knockdown was performed using siRNA, shRNA or by inducing its degradation by arsenic. Retroviral transductions were quantified by flow cytometry and qPCR whereas HIV-1 propagation in T-cells was followed by ELISA. Localization of PML, Daxx and HIV-1 capsid protein was determined by immunofluorescence and in situ proximity ligation assay. Retro-transposition events were estimated by the number of G418R foci after transfection of HeLa cells (over-expressing Daxx or not) with neo-marked retrotransposons.

Results: Inhibition by HIV-1 and other retroviruses triggers the formation of PML cytoplasmic bodies, as early as 30 minutes post-infection. Quantification of PML cytoplasmic bodies revealed that they last approximately 8h, with a peak at 2h post-infection. PML re-localization is blocked by reverse transcription inhibitors and is not observed following infection with unrelated viruses, suggesting it is specifically triggered by retroviral reverse transcription. Furthermore, PML knockdown dramatically increases reverse-transcription efficiency. However, although it is required for retroviral restriction, PML does not inhibit directly retroviral infection but acts through the stabilization of one of its well-characterized partners, Daxx. In the presence of PML, cytoplasmic Daxx is found in the vicinity of incoming HIV-1 capsids and inhibits reverse-transcription whereas in the absence of PML, Daxx is degraded. Interestingly, Daxx not only interferes with exogenous retroviral infections but can also inhibit retro-transposition of endogenous retroviruses.

Conclusions: We show for the first time that PML and Daxx cooperatively interfere with an early step of retroviral infection by targeting the reverse-transcription step. Our findings unravel a novel antiviral function for PML and its nuclear body-associated protein Daxx as a broad cellular inhibitor of reverse-transcription.

WEPO0105

HUMAN SPO1-1-BASED HIV-1 GAG-FUSION DNA VACCINE INDUCES HIGH FREQUENCY OF BROADLY REACTIVE T CELL RESPONSES IN MICE AND RHESUS MACAQUES

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Background: Ongoing AIDS epidemic commonly involves diverse HIV-1 subtypes even in a single geographical location (e.g. Hong Kong). Therefore, vaccine-induced host immunity should be broadly reactive for protection. We have previously reported a vaccine strategy that can induce potent cellular immunity by fusing murine soluble programmed death-1 (sPD1) with HIV-1 Gag-p24. Using this strategy, we ported a vaccine strategy that can induce potent cellular immunity by fusing murine sPD1 with HIV-1 Gag-p24. Using this strategy, we

Results: Using this strategy, we further investigated a novel human sPD1-based HIV-1 Gag-fusion DNA vaccine in mice and rhesus macaques.

Methods: The mosaic-like immunogen design was based on hundreds of Gag sequences covering three major circulating HIV-1 subtypes B/8, C/BC and D/A in China. The novel DNA vaccine contained human SPO1 fused together with two Gag, thus achieving the epitope coverage 97% of all three subtypes according to the HIV database analysis. This vaccine was evaluated through in vivo electroporation in mice and rhesus macaques. The immunogenicity profiles were determined using ELISA, ELISPOT, ICS and Tetramer assays. The vaccine-induced protection was also investigated in immunized mice challenged with a replicating-competent EcoHIV-1 infection. In mice. Notably, in rhesus macaques vaccine-induced T cell responses were broadly reactive and comparable to that elicited by a heterologous vaccine prime and ad boost regimen.

Conclusions: We found that the human sPD1-based HIV-1 Gag-fusion DNA vaccines are highly immunogenic in two animal species, and confer substantial protection against EcoHIV-1 infection in mice. The immunogenicity of our vaccine in rhesus macaques is promising and may warrant future development for human use.

WEPO0101

DEFERRED ANTIRETROVIRAL THERAPY IS ASSOCIATED WITH LOWER ESTIMATED GLOMERULAR FILTRATION RATE IN HIV-POSITIVE INDIVIDUALS WITH HIGH CD4 COUNTS

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Background: The impact of antiretroviral therapy (ART) on renal function in HIV-positive persons with high CD4 is largely unknown. We evaluated changes in estimated glomerular filtration rate (eGFR) among participants randomised to immediate or deferred ART within the INSIGHT START trial.

Methods: eGFR was calculated from locally measured creatinine using MDRD and CKD-EPI at months 4, 8, 12 and annually. Participants with baseline and ≥1 follow-up eGFR were included. We analysed change in eGFR at each visit from baseline using random effects models.

Results: 4629 of 4685 START participants (99%) were included; characteristics were balanced between the immediate (n=2294) and deferred ART arms (n=2395). In both arms, median baseline CD4 was 651/mm³ and eGFR (CKD-EPI) 111 ml/min/1.73m². Mean follow-up was 2.6 years. ART was initiated in 2271 participants (99.0%) in the immediate and 1126 (48.2%) in the deferred arm, accounting for 94% and 28% of follow-up time, respectively. 89% of initial regimens in both arms included TDF. In the primary randomized comparison those in the deferred arm had a lower eGFR over follow-up (Table) with no evidence that the eGFR slope was different comparing the immediate and deferred arms (p=0.2). The lower mean eGFR in the deferred arm remained significant in secondary analyses (Table). In a model adjusted for time and baseline eGFR, the mean change in eGFR (CKD-EPI) in the deferred versus immediate arm in those of non-black and black race was 0.23 (95%CI: -0.42, 0.87) and -2.43 (95% CI: -3.42, -1.43; p< 0.001 test for interaction respectively).

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Model 1 *</th>
<th>Adjusted Model 2**</th>
<th>Adjusted Model 3***</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Deferred arm (vs. immediate arm) (95% CI), p</td>
<td>Deferred arm (vs. immediate arm) (95% CI), p</td>
<td>Deferred arm (vs. immediate arm) (95% CI), p</td>
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<td>eGFR-CKD-EPI</td>
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<td><strong>1.85</strong></td>
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<td>(1.11 to -0.003), 0.049</td>
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<tr>
<td>eGFR-CKD-EPI</td>
<td>-1.26</td>
<td>-3.43</td>
<td>-3.21 (-4.25 to -2.17) &lt;0.001</td>
</tr>
<tr>
<td>(-2.14 to -0.38), 0.005</td>
<td>(-4.51 to -2.35), 0.001</td>
<td></td>
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</tr>
</tbody>
</table>

*Model 1: adjusted for baseline eGFR and years since randomization
**Model 2: additionally adjusted for current receipt of TDF and boosted PI
***Model 3: Model 2 + additionally adjusted for age, gender, race, region of enrolment, time since HIV diagnosis, use of injecting drugs, CD4 viral load, proteinuria, body mass index, hepatitis B/C, diabetes, hypertension, dyslipidemia, cardiovascular disease, smoking status, AIDs inhibitors or NNRTIs, all measured at randomisation.

Table. Mean change in eGFR by randomisation arm in INSIGHT START trial

Conclusions: Deferring ART initiation in patients with high CD4 led to a small but significantly lower eGFR compared to those starting immediately, and was most pronounced in those of black race. These results suggest asymptomatic HIV infection may promote kidney disease despite preserved immune function.
WeBD0102
THE EFFECT OF HIV INFECTION ON THE AGE AT PRESENTATION OF HBV-DRIVEN HEPATOCELLULAR CARCINOMA IN SOUTH AFRICA

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Background: Hepatocellular carcinoma (HCC) is the third most common cause of cancer mortality worldwide. Over 60% of HCC cases arise from chronic infection with HBV and/or HCV. Although HBV is known to impact on the natural progression of HBV infection, its impact on the epidemiology of HCC is not completely understood. This study investigated the occurrence of HCC among a cohort of patients incidentally diagnosed with HCC at four hospitals in South Africa.

Methods: A total of 107 patients diagnosed with HCC were recruited at Tygerberg and Groote Schuur hospitals in the Western Cape and at Chris Han Braga wanath and Charlotte Maxeke hospitals in Gauteng, South Africa following informed consent. Study subjects were recruited between December 2012 and October 2015. Demographic, laborator y and clinical data together with blood specimens were collected. When unknown at the time of diagnosis, patients were tested for HBsAg, HBeAg and the HIV on the Abbott Architect.

Results: Of 107 recruited HCC cases, 68/106 (64.1%) were positive for HBsAg. HIV seropositivity was seen in 22/100 (22%) of all HCC cases. HBeAg was seen in 10/17 (59%) of HIV-infected compared to 9/46 (20%) among HBV-monoinfected cases, p=0.005. Among HBsAg-positive HCC cases, 19/66 (29%) were HIV-infected compared to only 3/34 (9%) among those that were HBSAg-negative, p=0.04. The proportion of females among the HBV/HIV co-infected HCC cases of 6/18 (33%) was significantly higher than those that were HBV-monoinfected 6/47 (13%), p<0.005. HBV/HIV co-infected females presented younger, at median age 37.0 years (range: 30-44) compared to 50 years (range: 24-83) in HBV-monoinfected women, p<0.08.

Conclusions: There is a high prevalence of HIV and HBV co-infection among HCC patients in South Africa. There is a trend towards younger age at diagnosis of HCC among HIV-positive women compared to those who are HBV-negative. Larger multi-centred studies are needed to more accurately evaluate the impact of HIV infection on the epidemiology of HCC among sub-Saharan populations where HIV is highly prevalent and HBV-driven HCC is common.

WeBD0104
HIV ASSOCIATED NEUROCOGNITIVE DISORDER IN A PERI-Urban HIV CLINIC IN KWAZULU-NATAL, SOUTH AFRICA

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Background: The prevalence of HIV associated neurocognitive disorder (HAND) in KwaZulu Natal has not been established. This prospective, cross-sectional study determined the prevalence of HAND in ART naïve patients attending a peri-urban HIV clinic. The impact of HAND on functional capacity and factors associated with HAND were examined. Alternate neurocognitive tools were tested against the international HIV dementia scale (HIDS) score. An association between HAND and non-adherence to ART was explored.

Methods: Between May 2014 and May 2015, 146 ART naïve outpatients were assessed prior to commencing ART electrolytically. HAND was diagnosed using an HIDS score ≥ 10. Functional capacity was assessed using the eastern cooperative oncology group (ECOG) score. The get-up-and-go test and center for epidemiological studies depression scale – revised (CESD-R) were performed at the same consultation and correlation between these two tests and HIDS was determined. A HIV viral load done 6 months after initiating ART was used as a surrogate marker for adherence to ART.

Results: The prevalence of HAND determined by the HIDS was 78/146 (53%). ECOG score was 0 in 99.9% of patients with HAND. CD4 count <200 cells/mm³ (p=0.17) and alcohol consumption (p=0.17) were not associated with HAND. There was no correlation between the get-up-and-go test, CESD-R and the HIDS score. Of the 129/146 patients with 6 month viral loads assays a detectable viral load was found in 24/69(35%) with HAND and 12/60(20%) without HAND. There was no significant association between HAND and a detectable viral load after 6 months of ART use (p=0.06).

Conclusions:Whilst the prevalence of HAND was high, it was not associated with impaired functional capacity. This finding suggests that early asymptomatic disease was prevalent in this population. A low CD4 count was not associated with HAND. The get-up-and-go-test and CESD-R were not useful in the diagnosis of HAND. A further study is needed to determine whether a relationship between HAND and non-adherence to ART exists.

WeBD0105
AGING AND ASSOCIATED MORBIDITY IN HIV-POSITIVE PERSONS IN THE COHORT OF THE SPANISH AIDS RESEARCH NETWORK (CORIS)

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Background: Improved survival among HIV-positive people due to the success of antiretroviral therapy has increased the risk of developing comorbidities linked to ageing. We describe the pattern of morbidity according to age in HIV-positive per-
snos in the Cohort of the Spanish AIDS Research Network (CoRIS).

**Methods:** We calculated the age distribution in CoRIS, from 2004 to 2014, as the proportion of total person-years (py) in each age group (< 50:50.50;55;60-65; >65). We calculated incidence rates (per 1000py) for each comorbidity and the distribution of the number of comorbidities in persons >=50 compared with persons < 50 years. Age was modelled as a time-dependent variable.

**Results:** Overall, 9,569 (34385py of follow-up) persons were included, 83.5% were men, median age at entry was 35 years (Interquartile Range (IQR): 29-43) and median CD4 count 384 (IR:203-582). Figure 1 shows changes in current age distribution by year; the proportion of total py aged >=50 years increased from 8.8% to 21.2%, from 2004 to 2014. Among those aged >=50 years, 17% of the total py presented one comorbidity and 4% two or more, compared to 8% and 1%, respectively, among those aged < 50 years. Table 1 presents incidence rates for each comorbidity by age group. The most common comorbidities were psychiatric and Non-AIDS-Defining Malignancies (NADM). Comorbidity rates for cardiovascular, kidney-associated, bone fractures, metabolic and NADM were significantly higher for persons aged >=50 years.

<table>
<thead>
<tr>
<th>Comorbidity</th>
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<th>&lt;50 years</th>
<th>&gt;=50 years</th>
<th>P-value</th>
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<tbody>
<tr>
<td>Cardiovascular</td>
<td>85</td>
<td>2.39 (2.01,3.08)</td>
<td>1.38 (1.01,1.88)</td>
<td>8.75 (6.55,11.72)</td>
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<tr>
<td>kidney-associated event</td>
<td>89</td>
<td>2.61 (2.12,3.21)</td>
<td>2.07 (1.61,2.67)</td>
<td>5.60 (4.89,8.6)</td>
</tr>
<tr>
<td>Liver-associated event</td>
<td>94</td>
<td>2.76 (2.25,3.37)</td>
<td>2.63 (2.10,3.19)</td>
<td>3.46 (2.18,5.48)</td>
</tr>
<tr>
<td>Bone</td>
<td>122</td>
<td>3.58 (3.00,4.28)</td>
<td>3.19 (2.40,3.91)</td>
<td>5.81 (4.06,8.31)</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>212</td>
<td>6.30 (5.50,7.20)</td>
<td>6.30 (5.44,7.29)</td>
<td>6.28 (4.44,8.88)</td>
</tr>
<tr>
<td>Metabolic</td>
<td>87</td>
<td>2.55 (2.07,3.15)</td>
<td>1.69 (1.28,2.24)</td>
<td>7.40 (3.38,10.17)</td>
</tr>
<tr>
<td>Other Non-AIDS infections</td>
<td>11</td>
<td>0.32 (0.18,0.58)</td>
<td>0.27 (0.07,0.55)</td>
<td>0.57 (0.18,1.77)</td>
</tr>
<tr>
<td>Non-AIDS malignancies (more than one event per person is considered)</td>
<td>181</td>
<td>5.32 (4.60,6.16)</td>
<td>5.16 (4.40,6.06)</td>
<td>13.61 (10.77,17.20)</td>
</tr>
</tbody>
</table>

**Conclusions:** Non-AIDS events have emerged as an important cause of comorbidity and multi-morbidity, especially among those with older age, and pose a new challenge for HIV treatment and care.

**WEPCO 0102 EVALUATION OF THE ACCUCIRC DEVICE FOR EARLY INFANT MALE CIRCUMCISION IN KISUMU, KENYA: UPTAKE AND SAFETY**

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**Background:** As countries in sub-Saharan Africa scale up medical male circumcision (MMC), they are considering long term sustainable strategies, including early infant male circumcision (EIMC). AccuCirc is a single use, disposable device that comes in a sterile pre-packaged kit and may have advantages over the Mogen clamp, which is the currently approved device for EIMC in Kenya. This study assesses the safety and acceptability of the AccuCirc device for EIMC in 600 male infants in Kisumu, Kenya.

**Methods:** Infant boys are recruited through informational talks and materials at antenatal and maternal child health clinics, maternity wards and during post-natal visits. Mothers ≥18 years and their healthy infants aged ≥60 days with no genital abnormalities nor history of bleeding disorder and meeting weight-for-age criteria are enrolled. They are given a dorsal penile block, and circumcised using the AccuCirc. During the one-hour post-op observation period, questionnaires are administered to mothers to assess knowledge about EIMC and levels of satisfaction. Three days after circumcision the wound is assessed and mothers are asked additional questions. Data are entered into RedCap and analyzed using STATA version 13.1.
Results: Among 541 mothers and babies screened, 359 (66%) were eligible. Of these 110 (31%) opted for a Mogen clamp procedure; 249 (69%) were enrolled and circumcised using AccuCirc. The median age of mothers was 26 years (IQR=22,30); 20% were unmarried and 62% had greater than a primary education. The median age of infants circumcised was 16 days (IQR=7,32); 27% were ≤7 days and 73% were ≥30 days. There were no severe adverse events (AEs); there were 17 (6.8%) moderate AEs, all due to bleeding that occurred immediately after device removal. All were resolved in less than one hour. There were also 9 (3.6%) incomplete cuts, which required completion using surgical scissors or the Mogen clamp. Bleeding and incomplete cuts were more frequent in older/heavier babies. No infections or injuries to the glans were observed.

Conclusions: The AccuCirc device may be an efficient and safe alternative for EIMC. Restricting procedures to babies ≤30 days may reduce AEs. These results contribute evidence needed as countries transition from adult to infant circumcision.

WEPCDO103

THE INTERACTION OF LOW MALE CIRCUMCISION AND HIGH PARTNER CONCURRENCY ON HIV RISK IN AFRICA: EVIDENCE FROM DEMOGRAPHIC AND HEALTH SURVEYS

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Background: HIV rates vary widely across Sub-Saharan Africa. High rates of multiple concurrent sexual partners (MCP) and low rates of male circumcision (MC) have been associated with higher HIV rates. We assessed the joint impact of MCP and MC on HIV risk in men and women using data from Demographic and Health Survey (DHS) data on couples with linked socio-demographic and behavioral covariates.

Methods: Multilevel logistic regression was used to adjust for the variance at both the individual and regional levels. The outcome was HIV status, the exposure variables were MC status and MCP, and the regional-level variable was the proportion of the population that was circumcised. We compared the unadjusted model with a model where all individual and regional-level exposures were included.

Results: The interaction of low male circumcision and high partner concurrency on HIV risk for adult men and women was studied. The two most important reasons for getting circumcised, while for men circumcised during the study (n=352), reduction in HIV risk (50.9%) (95% CI 45.6, 55.6) and improved genital hygiene (16.2%) (95% CI 12.5, 20.2) were the top reasons for getting circumcised. For those uncircumcised at enrolment (n=2,781), lost wages was the main barrier (34.2%) (95% CI 32.6, 36.0) and lost wages (26.0%) (95% CI 23.7, 28.5).

Conclusions: Reduction in HIV risk remains the primary reason why men aged 25-39 pursue circumcision while losing wages is the primary reason others remain uncircumcised. Demand creation efforts for older men must amplify key client-level facilitators while overcoming primary barriers.

WEPCDO104

BARRIERS TO AND FACILITATORS OF VMMC UPTAKE AMONG OLDER MEN AGED 25-39 YEARS IN NYANZA REGION, WESTERN KENYA: THE TASCO STUDY


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Background: Kenya began rolling out voluntary medical male circumcision (VMMC) in 2008, with a goal of reaching 80% of approximately 1 million uncircumcised males aged 15–49 years by 2013. While over 700,000 males were circumcised by 2013, client demand for VMMC was primarily among younger clients, and uptake was lowest among men aged ≥25 years. We present reasons reported by men ≥25 years for going or not going for VMMC.

Methods: Between May 2014 and December 2015, we conducted a cluster randomized controlled study to assess the impact of two interventions (enhanced interpersonal communication and dedicated clinics for men aged ≥25 years) on the uptake of VMMC. We administered a questionnaire to men aged 25-39 years who were already circumcised at enrolment and those who received VMMC during the study on their reasons for going for VMMC. We also interviewed men who were uncircumcised at enrolment and those who remained uncircumcised at the end of the study, on their reasons for not going for circumcision.

Results: We interviewed 3,200 circumcised men and 2,781 uncircumcised men. For men who were circumcised before the study (n=2,848), reduction in HIV risk (43.7%) (95% CI, 41.9, 45.6) and culture/religion (18.4%) (95% CI, 17.1, 19.9) were the two most important reasons for getting circumcised, while for men circumcised during the study (n=352), reduction in HIV risk (50.9%) (95% CI, 45.6, 55.6) and improved genital hygiene (16.2%) (95% CI, 12.5, 20.2) were the top reasons for getting circumcised. For those uncircumcised at enrolment (n=2,781), lost wages was the main barrier (34.2%) (95% CI 32.6, 36.0) followed by pain (27.8%) (95% CI 26.1, 29.4) while among those who remained uncircumcised when the study closed and were interviewed at exit (n=1,265), top barriers were inconvenient time/venue (43.2%) (95% CI 40.4, 46.0) and lost wages (26.0%) (95% CI 23.7, 28.5).

Conclusions: Reduction in HIV risk remains the primary reason why men aged 25-39 pursue circumcision while losing wages is the primary reason others remain uncircumcised. Demand creation efforts for older men must amplify key client-level facilitators while overcoming primary barriers.

WEPCDO105

SAFETY OF THE NO-FLIP TECHNIQUE AND SPONTANEOUS DETACHMENT FOR SHANGRING CIRCUMCISION IN BOYS AND MEN: RESULTS FROM A RANDOMISED CONTROLLED TRIAL

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Background: Use of medical devices for voluntary medical male circumcision (VMMC) can offer several advantages. The ShangRing, a disposable single-use circumcision device, is simple to use, safe, and well-accepted in males 13 years old and above. We evaluated the safety, effectiveness, and acceptability of circumcision in males 10 years and above using a modified “no-flip” ShangRing technique, in addition to allowing spontaneous detachment of the device (as opposed to ring removal seven days after circumcision).

Methods: We enrolled men and boys seeking VMMC at two sites in Kenya. Participants were randomised to standard ShangRing removal seven days after circumcision vs. spontaneous device detachment. Weekly follow-up visits included evaluation of the degree of detachment if the ring was still in place, occurrence of adverse effects (AEs), and status of wound healing. Participants in the spontaneous detachment group could request device removal at any point during follow-up.

Results: 230 men and boys underwent ShangRing circumcision using the no-flip technique; 114 and 116 were randomised to the seven-day and spontaneous detachment groups, respectively. Mean ages in the two groups were 17.4 and 19.0 years, respectively. Mean circumcision times between the groups were similar (7.3±2.5 vs 7.0±2.6; p=0.4). All circumcisions were successfully completed using the ShangRing. Six (5.2%) and two (1.7%) moderate AEs were reported in the seven-day and spontaneous detachment groups, respectively, and were similar (p=0.17); there were no severe AEs. 84(72.4%) participants in the spontaneous detachment group wore the ring until it fell off; the remainder requested earlier removal. The probability of complete spontaneous detachment on seven, 14, and 28 days post-circumcision was 0.11, 0.63, and 1.00, respectively. Satisfaction with cosmetic results was high and similar in both groups—98.9% and 96.0% (p=0.3).

Conclusions: These results support the safety, acceptability, and effectiveness of the “no-flip” technique in males 10 years old and above, with 100% eligibility for all screened participants. Spontaneous detachment of the ring was safe and effective and was acceptable to a majority of men and boys. Use of the ShangRing as a single visit may significantly reduce the burden of service provision at health facilities.
**WEPC0106**

**ADOLESCENT GIRLS’ SUPPORT OF MALE PEERS AND SEXUAL PARTNERS RECEIVING VOLUNTARY MEDICAL MALE CIRCUMCISION SERVICES: IMPLICATIONS FOR DEMAND CREATION**

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**Background:** Voluntary medical male circumcision (VMMC) in sub-Saharan Africa has reached a large number of adolescent males (ages 10-19). While some research has evaluated what attracts these boys to services, little is known as to female adolescents’ involvement, if any, in the decision-making process and support of males being circumcised. This study explored adolescent girls’ support of their male peers and sexual partners undergoing the procedure.

**Methods:** Twelve focus group discussions (FGDs) were conducted with female adolescents (ages 16-19) in South Africa, Tanzania, and Zimbabwe. These FGDs focused on the girls’ opinions and perceptions of VMMC, including their perceived influence on VMMC uptake. In addition, 92 interviews were conducted with male adolescent VMMC clients 6-8 weeks post-procedure, which asked about their experiences in sharing their VMMC status or experience with girls. Audio recordings were transcribed, translated into English, and coded by two independent coders using qualitative coding software. Coders discussed discrepancies until at least 85% agreement was reached. Coded text was then assessed for themes.

**Results:** Overall, girls are supportive of VMMC. Girls discussed preferring circumcision for their male partners as a way to get girls’ approval to get circumcised. Younger boys (< 15 years) reported not interacting with girls much at all regarding VMMC.

**Conclusions:** Findings show that adolescent girls are involved in the VMMC decision-making process, especially with older adolescent boys. Given the apparent role of female peers/partners as support in influencing VMMC uptake, demand creation initiatives should continue to engage females in promoting VMMC to their male counterparts.

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**WEPC0201**

**VAGINAL BACTERIA ASSOCIATED WITH INCREASED RISK OF HIV ACQUISITION IN AFRICAN WOMEN**

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**Background:** Disruptions of the vaginal microbiota have been associated with increased HIV-1 risk. This study utilized molecular characterization of vaginal microbiota to test the hypothesis that specific vaginal bacteria are associated with increased risk of HIV-1 acquisition.

**Methods:** A nested case-control study was conducted in cohorts of women in Kenya, Uganda, Tanzania, Zambia, Botswana, and South Africa. Vaginal microbiota was compared at the pre-seroconversion sample in women who acquired HIV-1 (cases) versus women in the same cohort who remained seronegative (controls). Charac-
terization of vaginal microbiota included deep sequence analysis of broad-range 16S rRNA gene polymerase chain reaction (PCR) products, and bacterium-specific quantitative PCR (qPCR) assays for selected bacteria.

**Results:** Among 349 women (87 cases and 262 controls), 40 were from a female sex worker cohort, 112 were from a cohort of pregnant and post-partum women, and 197 were HIV-seronegative women in discordant couples cohorts. Their median age was 28 years (interquartile range 22-35) and 77 (22.1%) were pregnant. Vaginal bacterial community diversity was higher in women who acquired HIV-1 compared to seronegative controls (mean Shannon Diversity Index 1.3 [standard deviation (SD) 1.0] versus 0.9 [SD 0.9], p<0.02). Based on comparison of relative abundance in cases versus controls, 15 taxa were selected for qPCR testing. Of these, *Eggerthella* species-type 1, *Gemella asaccharolytica*, *Lepotrichia/Sneathia*, *Megaspheera*, and *Mycoplasma hominis* each showed a significant association with HIV-1 acquisition when undetectable levels were compared to tertiles representing increasing bacteri-a concentrations.

**Discussion:** High correlation between species precluded including multiple species together in a single multivariable model. These results remained significant after adjustment for age, pregnancy, contraceptive type, number of sex partners, frequency of sex, and recent unprotected intercourse (Figure 1).
WEPCO202
A BRIEF, TRAUMA-INFORMED INTERVENTION IS FEASIBLE AND ACCEPTABLE, INCREASES SAFETY BEHAVIOUR, AND REDUCES HIV RISK AMONG DRUG-INVOLVED WOMEN WHO TRADE SEX

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Background: The HIV epidemic among female sex workers (FSWs) is shaped by structural, social network, and behavioral factors. Violence is pervasive and associated with risk behavior and infection, yet interventions to respond to violence are limited.

Methods: Our intervention was developed in partnership with practitioners and clients from community-based organizations, who prioritized violence-related support, connection to services and responding to the myth that sex workers cannot be raped. The brief (3-5 minute), trauma-informed intervention (INSPIRE) was implemented with drug-involved FSWs in Baltimore, MD and evaluated for feasibility, acceptability and effect via a quasi-experimental, single group pretest-posttest study; baseline n(40); n=39 (66%) at follow-up; non-differential by baseline measures.

Results: At follow-up, participants had improved condom negotiation confidence (p=0.04), and reduced frequency of sex trade under the influence of drugs/alcohol (p=0.04). Endorsement of sex work-related rape myths decreased (p=0.04), and safety behavior scores increased (p<.001). Participants improved knowledge and use of support services for sexual violence and intimate partner violence. At follow-up, 68% knew at least one place to obtain assistance reporting violence to police, and 29% had approached such a program. Participants emphasized the value of a safe and supportive space to discuss violence; their feedback and that of community partners indicated high feasibility and acceptability of this brief, low-dose intervention.

Conclusions: Findings indicate the feasibility and acceptability of brief, trauma-informed discussion of safety and resources in the context of HIV risk reduction for FSWs, and suggest the potential for impact. This approach appears to prompt engagement in safety strategies, decrease the extent of sex trade under the influence, and bolster confidence in condom negotiation. INSPIRE influenced endpoints identified as valuable by community partners, specifically connection to support services and countering structural forces that falsely blame sex workers for violence. Future implementation research can advance limitations of our pilot study, including the short follow-up duration and attrition. These early results can inform scalable interventions that address the impact of trauma on HIV acquisition and care trajectories for FSWs, and in doing so address the dual epidemics of violence and HIV to support health and human rights.

WEPCO203
HIV PRE-EXPOSURE PROPHYLAXIS (PrEP) FORMULATION PREFERENCE AMONG WOMEN PARTICIPATING IN THE QUALITATIVE COMPONENT OF THE ASPIRE (MTN-020) STUDY

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Background: During MTN-020/ASPIRE, a phase III trial of the Dapivirine vaginal ring in Africa, preferences for various PrEP delivery forms (including the ring) were explored in a subsample of participants receiving exit in-depth interviews (IDIs).

Methods: Participants were presented with pictures and descriptions of 9 possible PrEP formulations (vaginal gel, ring, suppositories, and films; oral tablets, injections, implants, male and female condoms) and asked to discuss these, first in relation to the ring and second to select the formulations they would be most/least interested in for future use. IDIs were summarized in reports for rapid review of key findings; levels of interest in products were tabulated and themes related to product preference were extracted.

Results: In the qualitative subsample (N=71; Malawi n=12; South Africa n=34, Uganda n=13, Zimbabwe n=12), baseline median age was 26 (range 18-45 years), all had a primary sex partner; 41% reported using a male condom at last sex; the most common current contraceptives were injections (53%) and implants (24%). Participants expressed most interest for future PrEP formulated as rings (94%), implants (39%) and injections (34%). Positive attributes of these methods included being long-acting, discreet, familiar and easy-to-use. The ring was also liked for reliability, lack of side effects and comfort. Opinions were divided for implants and injections (28% and 32% uninterested in future use, respectively) due to needle-phobia, pain upon administration, low reversibility and fear of side effects based on previous contraceptive experience. Formulations participants had least interest in included: oral tablets (61%), vaginal gel (55%) and film (41%). Attributes of tablets that were disliked included the daily regimen, difficulty in swallowing and stigma related to taking HIV medicines. The gel, films and other vaginal formulations were disliked because of the act of vaginal insertion, coital use, effect on sex and lack of familiarity.

Conclusions: Diverse PrEP formulations elicited interest in this subsample, with long-acting methods being favored. Despite high interest in the vaginal ring, other vaginal products did not generate much interest. Familiarity, reliability, absence of side effects and low burden in terms of administration and use were determined as important attributes to consider for new PrEP formulations.

WEPCO204
SEXUAL BEHAVIOUR OF MEN AND WOMEN WITHIN AGE-DISPARATE PARTNERSHIPS IN SOUTH AFRICA: IMPLICATIONS FOR YOUNG WOMEN’S HIV RISK

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Background: Age-disparate partnerships are hypothesized to increase HIV-risk for young women. However, the evidence base remains mixed. Most studies have focused only on unprotected sex among women in the partnership. Consequently, little is known about other risky behaviours, such as transactional sex, alcohol use, and concurrency, as well as the behaviours of the men who partner with young women. We therefore examined various sexual behaviours of both young women and of men in partnerships with young women in order to investigate whether age-disparate partnerships involve riskier sexual behaviours.

Methods: We used nationally representative data from South Africa (2012) on partnerships reported by 16-24 year old women (n=818) and by men in partnerships with 16-24 year old women (n=985). We compared sexual behaviours in age-disparate partnerships and age-similar partnerships, using multivariate logistic regression to control for potential confounders and to assess rural/urban differences.

Results: Young women in age-disparate partnerships were more likely to report unprotected sex than in similar-aged partnerships (aOR=1.51; p<0.05). Men in partnerships with young women were more likely to report unprotected sex (aOR=1.92; p<0.01), transactional sex (aOR=2.73; p<0.01), drinking alcohol before sex (aOR=1.60;
EVIDENCE FOR SELECTION EFFECT AND HAWTHORNE EFFECT IN BEHAVIOURAL HIV PREVENTION TRIAL AMONG YOUNG WOMEN IN RURAL SOUTH AFRICA

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Background: HPTN 068 was a randomized controlled trial to examine whether cash transfers conditional on school attendance reduce the risk of HIV acquisition in young South African women. Findings indicated no difference in HIV acquisition between study arms, with low HIV incidence and high levels of school enrollment in both treatment and control groups. We examine whether school enrollment trajectories of the study participants differed from the underlying study population, and whether differences could be attributed to existing differences in school enrollment at baseline (selection effect) or differences that arose during study participation (Hawthorne effect).

Methods: Using census data from the Agincourt Health and Socio-Demographic Surveillance System within which the HPTN 068 trial was nested, we constructed a cohort of 2525 young women between the ages 13-20 in 2011. Using log-binomial regression models, we compared 2011 and 2012 school enrollment between those who did (n=1145) and did not (n=1380) enroll in HPTN 068 in 2011. To isolate the Hawthorne effect we restricted the cohort to those enrolled in school at time of study enrollment. We adjusted for key sociodemographic characteristics and stratified by age.

Results: Nearly all HPTN 068 participants (97%) were still enrolled in school in 2012 compared to 86% of non-participants. The magnitude of association between study enrollment and school enrollment was strongest among those who were older at baseline. Small but statistically significant effects remained in the restricted cohort. Similar preliminary findings were observed in 2013.

Conclusions: HPTN 068 participants, regardless of study arm, were more likely to be enrolled in school than non-participants. Our findings suggest that both selection and Hawthorne effects may have diminished the differences in school enrollment between study arms and is one plausible explanation for the null study effects. The Hawthorne-specific findings generate hypotheses for how to structure school retention interventions to prevent HIV.

[Figure 1. The association between enrollment in the HIV prevention trial in 2011 and school enrollment in 2011, 2012 and 2013, stratified by age, in both the full cohort and a restricted cohort of those enrolled in school in 2011]
pared with their illness experiences using a constant comparison method.

Results: Identified patterns of medical pluralism included use of dominant public sector clinics and hospitals with use of
1) private sector practitioners and chemists,
2) indigenous sector traditional healers and herbalists, and
3) religious sector faith healers and prophets.
These patterns differed depending on the cascade stage, available sources of health care, and other contextual factors in each country. Sequential medical pluralism, adopted for alternative care purposes, appeared more common prior to ART, largely around HIV testing and linkage to care, both associated with delays. Concurrent medical pluralism, used for complementary purposes, appeared more common among ART patients. Patients engaged in medical pluralism predominantly to compensate for aspects of HIV care needed but not received from their main public sector providers, rather than to seek substitute services.

Conclusions: Sequential medical pluralism may act as a bottleneck towards ART initiation. Concurrent medical pluralism suggests a tendency towards complementary forms of health care utilization among ART users, which may be deemed necessary by individual patients in order to complete their desired or required package of health care. Complementary approaches may serve a purpose of resolving tensions and minimize competition between sources of health care, but carry the risk of drug-drug interactions.

WEPDO102
CLAIMS OF A CURE: USE OF CD4 CELL COUNT RESULTS TO GUIDE TRADITIONAL TREATMENT IN BUSHBUCKRIDGE, SOUTH AFRICA
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Background: Traditional healers play an important role in providing health care in much of sub-Saharan Africa, due to both their greater accessibility and acceptability. In rural northeastern South Africa (SA), studies have documented HIV patients using both traditional healers, often ‘ping-ponging’ back and forth between the two systems. The initial use of traditional healers can cause delays in initiation of life-saving medicine for serious conditions such as HIV.

Methods: We conducted 27 in-depth interviews and 133 surveys with a random sample of traditional healers living in Bushbuckridge, SA to document illnesses treated, methods for diagnosis, self-reported effectiveness of treatments, and the monetary fees they charged for a variety of ailments, including HIV.

Results: Healers in the rural Bushbuckridge were mostly female (77%), older (median = 58 [IQR: 50-67 years]), with low levels of education (median = 3.7 [IQR: 3.2-4.2] years). Our qualitative interviews revealed that healers treating probable HIV-infected patients first referred them to the clinic for testing and confirmation. Subsequently if the patient preferred traditional treatment, they differentiated between two categories of known HIV-infected patients: (1) those with CD4 < 350 cells/mm3 and (2) those with > 350 cells/mm3. Only patients with “low” CD4 cell counts were routinely referred back to health facilities for antiretroviral therapy. Among those surveyed, 39 (30%) reported successfully treating adult HIV-infected patients with CD4 cell >350 cells/mm3. Healers who reported treating HIV-infected patients treated more patients (median 8.7 vs. 4.8 per month; p=0.03), had been practicing for less time (median 16.9 vs. 22.8 years; p=0.03), and had lower levels of education (2.8 vs 4.1 years; p=0.017). Both groups experienced similar number of blood exposures during their treatments (median 1.5 vs 1.0; p=0.24). Healers charged a median of 1500 Rand (~$92 US) to treat patients (with high CD4) for HIV.

Conclusions: Traditional healers in rural SA do refer suspected HIV-infected patients to biomedical care, yet continue to treat patients once confirmed, particularly when patients have a CD4 cell count >350 cells/mm3. Given that patients with higher CD4 cell counts have fewer physical symptoms of HIV-infection, a greater emphasis on patient education and healer engagement are warranted.

WEPDO103
MOONLIGHT METHADONE FOR MUSLIMS ON MEDICALLY ASSISTED THERAPY CURBING DRUG RELAPSE IN MALINDI, KENYA
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Background: It is widely acknowledged that heroin dependence results in homelessness, family disruption, social instability and marginalization. Ancrédotal reports indicate many members of society regard people who use drugs as sinners.

Although 2011 UNODC Study Kenya revealed 55% of all PWID are Christian, 42% Muslim. Nairobi PWID comprise 36% versus 72% at Coast. Evidence regarding spiritual support for PWID is limited.

Description: Following initiation of Medically Assisted (MAT) Program in Malindi, enrolled Muslim MAT clients expressed a desire to fast during Ramadan 2015. From May 2015 they requested MAT clinic team to to dispense methadone after sunset for Muslim clients or wean them off methadone 6 weeks before Ramadan. Unfortunately national guidelines for MAT don’t recommend take home doses, dispensing by non-pharmacists or beyond operational hours. International MAT experts restricted detox for incarcerated MAT clients and advised against shifting MAT Clinic operational hours to assure structured way of life for clients. Religious leaders recommended from Islam’s waiver from fasting for sick, pregnant or nursing women. Malindi hospital unwilling to dispense methadone at 24-hour main hospital pharmacy due to security concerns. Mathari MAT Clinic in Nairobi rejected a similar plea as their Muslim MAT Clients were few (<10).

Lessons learned: On 1st day of Ramadan 2015, almost 40 clients missed daily methadone dose. By third day, severe withdrawal drove a few Muslim clients to MAT pharmacy for daily dose. Clients who showed up on subsequent days required re-induction. However, by 7th Ramadan, 29 clients still kept away. Rumours that some fasting clients were taking heroin after sunset and at pre-dawn to manage their withdrawal prompted Malindi MAT Clinic team to unanimously approve evening dispensing for fasting Muslim clients. Eligibility for evening doses for MAT defaults: 3-days re-induction at daytime. 3 fasting clients refused to comply. On 12th Ramadan, 26 fasting clients accessed evening services. All routinely reported immediately after prayers; within 40 minutes, all doses dispensed. This service was halted on Eid day.

Conclusions/Next steps: Moonlight dispensing enabled Muslim clients to fast after years of drug use while improving client-provider relations. As Kenya scales up MAT program, prioritize spiritual recovery for MAT Clients.
WEPEDO105  CAPACITY BUILDING OF TRADITIONAL HEALTH PRACTITIONERS TO MAINSTREAM HIV AND AIDS PREVENTION IN ZIMBABWE

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Background: The purpose of this project was to strengthen the capacity of Traditional Health Practitioners (THPs) in HIV and AIDS prevention and treatment. The National AIDS Council spearheaded the local implementation of the project, which was simultaneously implemented in South Africa and Botswana, funded by the SADC. Specifically, the project sought to train 360 THPs in HIV prevention and treatment in Zimbabwe in two years.

Description: A three member project steering committee, comprising NAC, Ministry of Health and Child Care and a representative of the THPs was established. After this, an all inclusive stakeholders consultative meeting to sensitise them on the objectives of the project and obtain their buy-in was held. A manual was then developed and translated into Ndebele and Shona. Six people, including three THPs were trained as facilitators.

A total of 296 THPs were trained in five provinces. At the end of the SADC funded project, the National AIDS Council adopted the project and has trained an additional 180 THPs. During the training most THPs confirmed claims that condoms contain HIV causing worms and that the THPs could treat AIDS. These claims and others were demystified during training. 40% of the trained THPs underwent HIV counselling and testing, provided during training. In addition condoms were provided to the THPs to dispense to their clients at home. 100 healers have been followed up 12 months after training and 90% of them found to be practising what they learnt, in particular referring clients for HIV counselling and testing, record keeping and adherence counselling.

Lessons learned:
· Most THPs have serious misconceptions about causes of HIV and that they treat AIDS
· The misconceptions are due to lack of knowledge on the causes of HIV and its management
· THPs are willing to collaborate with mainstream health care as long as this does not lead to loss of income
· Engaging THPs should not discredit their work but amplify it
· THPs can become good partners in responding to HIV and AIDS

Conclusions/Next steps: NAC continues to fund this intervention to ensure all provinces are covered and also monitor post course behaviour.

WEPEDO106  DEVELOPING AN ETHNICALLY RESEARCH PROTOCOL: SOWING SEEDS FOR THE INCLUSION OF INDIGENOUS PEOPLES WITH HIV

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Background: Indigenous responses to HIV/AIDS have been underway for over two decades. The International Indigenous Working Group on HIV and AIDS (IIWGHA) includes seventeen Indigenous leaders from five continents, thirteen countries and multiple Indigenous communities. IIWGHA is an international voice that links Indigenous Peoples with their leadership, governments, AIDS service organizations, cooperatives, and others in collective action to reduce these health inequities. Robust responses to HIV/AIDS must be grounded in country and population-specific evidence generated through high-quality research. The distinct histories of research exploitation within our communities have led to distrust; therefore it is imperative that research becomes Indigenous-led.

We are generating a meaningful engagement protocol for use within IIWGHA to ensure that research is conducted in a culturally respectful way, responsive to the diverse needs of IIWGHA member countries. Our initiative responds to the dearth of Indigenous HIV-focused research. Our goal is to sow seeds for community-led research benefitting Indigenous populations affected by HIV. This protocol will strategically support Indigenous researchers implementing research meeting the highest standards of scientific excellence, and respectful and ethical community engagement, contributing to knowledge building and strengthening partnerships, which underpin and inform strategic action.

Lessons learned: We ground ourselves in Indigenous knowledges and paradigms that inform our understandings of the world. We will also incorporate knowledge generated through the academy and apply Two-Eyed Seeing and community-based research frameworks. Mutually respectful, ethical partnerships address socioecon- nomic and structural health determinants. Decolonizing methodologies and processes are central themes in this protocol development and modalities of research partnerships. Key principles include: 1. Inclusion of Indigenous Peoples throughout the research process; 2. Research in good faith, with free, prior and informed consent; 3. Evidence of vulnerability and risks; 4. Grounding research in the strengths, cultures and ancestral practices of Indigenous Peoples; 5. Honoring both Indigenous and Western Ways of Knowing.

Conclusions/Next steps: This work brings together Indigenous HIV research networks from IIWGHA member countries for a constructive and critical look at Indigenous HIV research. Next steps will include finalizing a research protocol for use nationally and internationally by members of IIWGHA and its collaborators and funders.

WEPEDO 1  FILLING THE GAPS IN PMTCT/B+ PROGRAMMES

WEPEDO 101  SCALING UP PARTNER TESTING IN MATERNAL & CHILD HEALTH CLINIC (MCH) SETTINGS: A CASE STUDY OF GUCHA SUB-COUNTY HOSPITAL, WESTERN KENYA

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Background: Male partner involvement is generally low in MCH settings due to a myriad of factors including lack of policy guidance and socio-cultural factors. The objective of this study was to assess male involvement in PMTCT services, including partner counseling and testing in the MCH and to gather recommendations for improvement and strengthening of these services.

Description: Two mentor mothers were trained in mid-2013 and placed at Gucha Sub-county hospital, Western Kenya to support PMTCT interventions at the facility, including encouraging partner testing among women receiving PMTCT services. All women attending ANC services were counseled on the importance of partner involvement and testing, provided with an invitation card for the partner to accompany them to the clinic for their next ANC visit. Couples who attended clinic were provided with a variety of services including HIV counseling and testing. Community mobilization and sensitizations were done around the facility catchment on importance of partner involvement and testing. Routinely collected data for partner counseling and testing uptake from MCH registers was compared before (2012) and after placement of the mentor mothers (2014)

Lessons learned: A total of 1690 and 1619 pregnant women attended the facility for ANC services for the first time in 2012 and 2014 respectively. Forty three percent (741/1690) and (976) 1582/1619 were counseled and tested for HIV. Among these, 17/741(3%) partners were counseled and tested for HIV in 2012 as compared to 953/1582 (60%) in 2014. Among the partners tested, 0/17 (0%) were HIV discordant in 2012 while 14/953 (1.4%) were discordant in 2014. A total of 12 community sen- sitization meetings were held in 2014.

Conclusions/Next steps: Scaling up partner testing is feasible but requires both fac- ility and community level coordination. With good mobilization and community education, partner testing can be institutionalized. With improved partner testing, uptake of PMTCT interventions can be improved. There is need for County govern- ments to put in place guidance of male involvement in RMNCH services.
WEPDE0102
COUNSELED TO COMPLIANCE: EXPERIENCES OF OPTION B+ FOR THE PREVENTION OF MOTHER TO CHILD TRANSMISSION IN FOUR HEALTH AND DEMOGRAPHIC SURVEILLANCE SITES IN SOUTH-AFRICAN AFRICA

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Background: Option B+ for the prevention of mother-to-child transmission (PMTCT) was intended to improve PMTCT coverage and retention in HIV care for mothers and virtually eliminate perinatal infections. Although Option B+, and wider test and treat policies, are to be rolled-out in many countries, little is known about how pregnant women and health workers perceive Option B+ and its influence on HIV care-seeking behaviours. This qualitative study explored these experiences in four African settings.

Methods: Thirty in-depth interviews (IDIs) were conducted with HIV-positive women, purposefully sampled from ART clinics or health and demographic surveillance datasets in Karonga, (Malawi), Kisesa (Tanzania), Kambuliva and Rakai (Uganda). 20 IDIs were conducted with health-care providers. IDIs explored health worker and patients’ understanding and experiences of Option B+. A framework analysis using a thematic approach was conducted, and findings compared across sites.

Results: Health providers and women generally considered the main benefit of Option B+ as being to protect the unborn baby with few references to potential or expected health benefits of early ART for the mothers. Across all sites, health workers reported a desire to maximise opportunities to initiate HIV positive women onto ART through Option B+ programmes. Both providers and women reported instances of repeated counselling sessions until consent to initiate ART was obtained, particularly in women for whom the positive test result was new or unexpected. Some pregnant women responded to a perceived lack of autonomy over Option B+ participation by covertly refusing to adhere to ART, while others avoided antenatal clinics completely.

Conclusions: Most women willingly initiated ART through Option B+, however there was an occasional disconnect between health worker actions, and the ‘readiness’ of women to start lifelong treatment resulting in practices that could be perceived as coercive. This could be further exacerbated by the perceived requirements among some health workers to meet Option B+ programme targets. ART initiation following an HIV diagnosis should be accompanied by greater efforts to ensure preparedness for life-long ART. These findings may also be relevant to guiding the implementation of universal test and treat policies.

WEPDE0103
MOMCONNECT: MHEALTH STRENGTHENING OF DEMAND AND SUPPLY SIDES OF THE SOUTH AFRICAN HEALTH SYSTEM TO IMPROVE PMTCT

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Background: MomConnect is a South African National Department of Health initiative that aims to use the ubiquity of cell phones. It sends pregnant women messages appropriate to their stage of pregnancy to strengthen the demand for health services and empower women. It enables these women to interact with the health system, obtain further health information and to provide feedback on the quality of care that they receive to improve supply of services.

Description: Since its launch in August 2014 MomConnect has registered 583,929 pregnant women. More than 95% (548,877) of all facilities dealing with pregnant women have recorded MomConnect registrations, indicative of its universal roll out.

Lessons learned: Women interact free of charge with a help desk. Over 200,000 questions have been asked. Examples related to HIV include:

“Why are health care workers initiating ARV treatment without CD4 Count?”
“What is the safest method of delivery if you are HIV positive?”
“What are the chances of the baby getting infected with the virus when one has cracked nipples should breastfeeding continue?”

Each question is answered on a daily basis and if serious women are directed to a health facility. Women also have the ability to compliment the service. To date 4,173 compliments received more than six times the complaints (600) received. Examples of complaints impacting on PMTCT include:

“Lack of confidentiality for HIV Patients, as files were labelled, consulting rooms designated only for HIV patients, treatment room labelled ARV room.”
The resultant action was that the district focal person visited facility and met the manager. They looked at areas that patient complained and removed all the signs related to HIV.
“Complained that she went to the clinic to collect HIV treatment and she was sent off without medication.” Client advised to return to facility, where she received the necessary ARVs after managers of facility were briefed.

Conclusions/Next steps: MomConnect has empowered pregnant women and improved the demand for better quality as well as improving supply and the quality of health services. The help desk is being upgraded to be more responsive to feedback from pregnant women. MomConnect data is being integrated with national data system.

WEPDE0104
VIRAL LOAD SAMPLE LOGISTICS FOR HIV-POSITIVE WOMEN IN RURAL SETTINGS: EXPERIENCE FROM THE INSPIRE MOMENT NIGERIA PMTCT STUDY

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Background: Due to its earlier detection of treatment failure, Viral Load (VL) is preferred over CD4 count in treatment monitoring. In Nigeria, VL is not routinely available to rural patients at Primary Healthcare Centers (PHCs). Whole blood samples require transport on ice and processing within 6 to 8 hrs. Routine sample transport is difficult in rural areas due to distance and terrain. We present our experience in the establishment of a rural VL transport logistics system in North-Central Nigeria.

Description: The MoMent study evaluates PMTCT service uptake, ART adherence, and retention among mother-infant pairs in rural areas. VL is a study proxy for maternal ART adherence, and in order to measure this outcome, a VL sample transport system had to be developed de novo. Field Research staff were trained with a VL sample collection and transport SOP alongside clinical PHC staff. Study sites were mapped to the Central Lab; sites too distant were linked to a hub facility for sample centrifugation and storage before delivery to the central processing lab. Sample collection and transport materials were provided to each study site. Where official vehicles were not available, commercial transport was costed and utilized.

Lessons learned: In total, 28 staff received one-day training on VL sample collection and transport. In 13 months, 201 maternal VL samples were collected and transported from 20 PHCs to the Central Lab; 28/201 (13.9%) were rejected. In total, 4/201 (1.9%) samples were rejected, comparable to rejection rates observed. Average collection, transport and processing cost per VL sample was 55.50 USD; rejected samples cost 57.50 USD to repeat. High turnover rate of trained PHC staff (7/17, 41.2%) was also observed.

Conclusions/Next steps: Routine VL in rural Nigeria is feasible if resources can be directed at training, staff retention, and quality assurance. Additionally, we recommend mapping of facilities and strategic placement of molecular labs or point-of-care testing to reduce transport cost and logistic challenges. However, processing cost remains high, especially for rejected samples. Innovative financing and technology is needed to provide equitable access to VL monitoring for HIV-positive women in hard-to-reach areas.
WEPO0105
EARLY RETENTION IN ANTENATAL CARE AMONG HIV-POSITIVE WOMEN ENROLLED IN THE OPTION B+ PROGRAM IN KINSHASA, DRC

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Background: Effective retention in prevention of mother-to-child HIV prevention (PMTCT) programs implementing universal, lifelong treatment ("Option B+") is critical to achieving pediatric HIV elimination. Innovative strategies are needed to strengthen retention in PMTCT/antenatal care (ANC). The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) assessed early loss to follow-up of HIV-positive pregnant women in ANC following introduction of a standard operating procedure (SOP) in select facilities in Kinshasa, Democratic Republic of the Congo. The SOP included guidance to health providers and mentor mothers (HIV-positive expert patients) on 1) linking newly and known HIV-positive women to these mothers, 2) counseling at first ANC, 3) tracking those who miss antenatal appointments through phone calls and home visits, and 4) documenting appointments and follow-up activities.

Methods: A quasi-experimental study was conducted from May to November 2015 in 16 EGPAF-supported health facilities, purposively selected for high volume and high HIV prevalence. Facilities were randomized to receive the SOP enhancement or no intervention. All records of HIV-positive women who attended their first ANC visit were abstracted during the data collection period. Multiple logistic regressions were used to identify independent determinants of second ANC visit attendance by HIV-positive pregnant women enrolled in the PMTCT Option B+ program.

Results: One-hundred-and-seventy-four women were included in the analysis: 43.7% (n=76) in the intervention and 56.3% (n=96) in the comparison group. Women’s average age was 31 years (SD: 6.4). Approximately 86.2% of participants were enrolled as WHO Clinical Stage I. Overall attrition at the second ANC visit was 25.8% (n=45). After multivariable logistic regression, being in the comparison group remained independently associated with early attrition (AOR=3.49, CI 95%: 1.58-7.71, p=0.002). Women attending facilities without SOP implementation were 3.5 times more likely to miss the second ANC visit (n=35, 35.7%) compared to the women failing to receive SOP (n=10, 13.2%).

Conclusions: Study findings demonstrated a positive effect of the SOP intervention on second ANC visit attendance. This SOP should be expanded to include the full range of ANC visits and delivery. This tool should be promoted and scaled up to contribute to the improvement of the retention in care for PMTCT clients.

WEPO0106LB
REPORTED ANTENATAL ADHERENCE TO PREDICT POSTNATAL VIRAL REBOUND AMONG WOMEN INITIATING ART DURING PREGNANCY IN CAPE TOWN, SOUTH AFRICA: A PROSPECTIVE STUDY

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Background: Maintaining postnatal viral suppression is critical to minimize risk of breastfeeding mother-to-child transmission and ensure ongoing maternal health. Determining simple ways to identify women at risk of postnatal viroemia will have benefits to both mother and child.

Methods: HIV+ women initiating ART during pregnancy at a large primary care clinic were recruited and followed in the MCH-ART study in Cape Town, South Africa. Consenting women completed up to eight study visits from ART initiation through 12 months postpartum, including viral load (VL) measurement, demographics and self-report of missed ART doses in the 30 days prior. We investigated time to VL >1000 copies/mL and associations between antenatal adherence and viral rebound among women suppressed at delivery.

Results: Overall, 339 women with VL ≤50 copies/mL at delivery were included in this analysis (median age 28 years, median 18 weeks on ART). From ART initiation through delivery, 28% of women reported any missed ART doses; 16% reported one or more missed doses/month on average. Using product limit methods 79% of women maintained VL ≤1000 copies/mL at 12 months postpartum. In a proportional hazards model adjusted for age, duration of antenatal ART and ART history, reporting one or more missed doses per 30 days on average during pregnancy was associated with a more than two-fold increase in the hazard of postnatal viral rebound (adjusted hazard ratio (aHR) 2.64, p < 0.001). Previous ART use increased the hazard of viral rebound; increasing age and weeks on ART were protective. When stratified by age, the association between missed doses and viral rebound was stronger among women ≥25 years compared to younger women (aHR 3.88 and 2.20, respectively).

Conclusions: In this cohort of women who initiated ART in pregnancy and were suppressed at delivery, report of antenatal missed ART doses was predictive of postnatal viroemia. Self-reported antenatal missed doses, together with other routinely collected antenatal risk factors like age, could be used to flag women at high risk of postnatal viral rebound. There is need for further research to explore how reported antenatal adherence could be used in low-resource settings to target interventions to recently postpartum women most at risk.

WEPO0201
COMMUNITY LEADER ENGAGEMENT AND PEER GROUP ATTENDANCE IMPROVES SELECTED MCH AND PMTCT SERVICES UPTAKE AND RETENTION: PRELIMINARY FINDINGS FROM PROJECT ACCLAIM

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Background: Project Advancing Community Level Action for Improving maternal and child health (MCH)/prevention of mother-to-child HIV transmission (PMTCT) (Project ACCLAIM), a three-arm randomized trial with 45 PMTCT-implementing health facilities and their catchment areas across Swaziland, Uganda and Zambia, aimed to improve access, uptake and retention in MCH and PMTCT services. The study evaluates three interventions: Arm 1) Community leader (CL) engagement (training in MCH/PMTCT, community action mentoring including dialogues; Arm 2) CL plus community days (CDs), a community event with structured dialogues on MCH/PMTCT and provision of health services; Arm 3) CL plus CDs and male and female MCH classes: four structured peer-led sessions. We report preliminary results on outcomes of increased proportions of HIV exposed infants (HEI) receiving HIV testing at 6-8 weeks, health facility deliveries, male partners tested.

Methods: Routine health facility data were collected prior to implementation (July 2013, Swaziland and Zambia, January 2014, Uganda) and for each quarter through June 2016. We compared changes in proportions pre-implementation and the last quarter after implementation in the three arms using chi square tests for linear proportions.

Results: The interventions’ effects differed in the three countries. In Uganda, the proportion of HEI tested increased from 31% (56/182) to 48% (56/116), p < 0.001 in Arm 1, and in Arm 3 from 19% (20/106) to 43% (22/51), p < 0.001; male partners tested increased from 11% (22/206) to 22% (53/245) p < 0.001 in Arm 1 and 10% (71/728) to 15% (119/797), p < 0.001. In Swaziland the proportions of women delivering in a health facility increased from 10% (71/728) to 15% (119/797), p < 0.001. In Arm 1 and 10% (71/728) to 15% (119/797), p < 0.001. The proportion of women delivering in a health facility increased from 60% (1,252/2,083) to 94% (1,694/1,797), p < 0.001. Arm 1. In Swaziland the proportions of women delivering in a health facility increased in both Arm 1 and Arm 3-49% (160/325) to 81% (246/324) p < 0.001, and 10% (100/199) to 78% (153/195) respectively, p < 0.001. In Zambia, the proportions of male partners tested increased in Arm 1 from 42% (66/159) to 73% (130/178), p < 0.001.

Conclusions: The CL and peer group interventions appeared to increase MCH/PMTCT services update and retention, with Uganda registering the most improvements. The CL plus CD intervention, Arm 2, appeared to have no effect on the outcomes.
WEPO0202
THE IMPORTANCE OF INVOLVING YOUNG WOMEN LIVING WITH HIV IN SEXUAL REPRODUCTIVE HEALTH RESEARCH: INTERNATIONAL COMMUNITY OF WOMEN LIVING WITH HIV EASTERN AFRICA (ICWEA) EXPERIENCE
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Background: Almost 60% of new HIV infection among young people aged 15-24 occur among adolescent girls and young women (2013). Globally, 15% of the women living with HIV are aged 15-24, of whom 80% live in sub-Saharan Africa. Although young women living with HIV can have a role in ensuring that research in Sexual and Reproductive Health and Rights (SRHR) is relevant to their needs, they have historically not been targeted as research assistants and the benefits and opportunities of involving them are not well documented.

Description: The young women were engaged in multi stakeholder dialogue on SRHR violations. Experiences and lessons learnt involving women living with HIV as research assistants have been documented in a toolkit to inform future research. In April 2014 ICWEA involved young women living with HIV (15-30)years in a research “Violation of Sexual Reproductive Health Rights of women living with HIV in clinical and community settings in Uganda.” ICWEA called for application for research assistants on list-servers and HIV civil society including youth focused organizations in 9 research focus districts. Thirty five young women living with HIV, were selected and underwent training in research methods, data collection and understanding SRHR. They participated in identifying research assistants, pre-tested research tools, collected and transcribed data, participated in report writing, validation and dissemination of findings. They were represented on the Advisory Board to the research.

Lessons learned: The process enhanced the capacity of the young women to engage in research and dialogue on SRHR violations. The process built confidence in the respondents, because research assistants were also women living with HIV and some spoke out for the first-time on sensitive issues such as forced and coerced sterilization. The young women got in-depth understanding of SRHR information and services to inform their own advocacy.

Conclusions/Next steps: Involving young women living with HIV as research assistants is beneficial for respondents of SRHR research and empowering to them. Population specific recruitment and capacity building strategies with greater gender consideration for young women living with HIV are important to ensure their engagement in research processes. Their experiences should be documented and shared to inform future researchers.

WEPO0203
"WHEN YOU DON’T HAVE MONEY, HE CONTROLS YOU": FINANCIAL SECURITY, COMMUNITY SAVINGS GROUPS, AND HIV RISK AMONG FEMALE SEX WORKERS IN IRINGA, TANZANIA
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Background: There is a growing literature indicating the importance of financial insecurity as a structural driver of HIV risk behaviors such as unprotected sex including among female sex workers (FSW), who are at heightened risk for HIV infection across geographic settings.

Methods: A Phase II randomized controlled trial of a community-empowerment based combination HIV prevention intervention is being conducted in Iringa, Tanzania. Using baseline survey data from 254 FSW of an ongoing cohort, bivariate and multivariate logistic regression was conducted to examine the statistical association between community savings group participation and HIV protective behaviors. Iterative, semi-structured in-depth interviews were also conducted with 15 FSW’s participating in community savings groups. Interviews were audiorecorded, transcribed, translated from Swahili into English, coded and analyzed through thematic content analysis.

Results: Participants qualitatively described that immediate financial need inhibited their ability to refuse high-risk sexual behaviors such as sex without a condom and anal sex with clients. With insufficient capital to participate in formal banking, community savings groups were described as a mechanism through which FSW can securely save their money, and create a safety net they can utilize when they have immediate financial need, safeguarding against HIV risks. Quantitative analyses confirmed the women’s qualitative narratives. Approximately 25% of the cohort participates in community savings groups. In multivariate analysis controlling for age, education, marital status, number of children, and length of time in sex work, participating in a community savings group was significantly associated with always using a condom with new clients (AOR 2.06 [95% CI 0.98-4.32]) and refusal of unsafe sex (AOR: 2.94 [95% CI: 1.33-6.49]), including when a client was unwilling to use a condom, requested anal sex, or was unwilling to pay the requested price. Savings group participation was also significantly associated with a lower odds of having reported an STD in the last 6 months (AOR 0.37 [95% CI 0.10-0.84]).

Conclusions: Findings demonstrate the promising role of community savings groups as a structural intervention to promote financial security and reduce HIV risk among FSW.

WEPO0204
CHASING THE POSSIBLE: ARE WE THERE YET? INNOVATIONS IN TESTING TO END THE HIV EPIDEMIC IN NSW, AUSTRALIA
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Background: To achieve the ambitious targets for reducing HIV transmission set in the NSW HIV Strategy 2012-2015, NSW implemented a suite of innovations to facilitate increased HIV testing and better detect undiagnosed HIV infections among priority populations.

Description: In 2013-2015, NSW:
- Integrated rapid HIV testing (RHT) into the mix of testing options for gay men at public clinics across NSW.
- Delivered RHT at community sites and mobile locations through peer educators to increase accessibility.
- Facilitated service redesign in public clinics to increase targeted testing delivery.
- Realigned purchasing arrangements with non-government organisations to support Strategy targets.
- Established a ‘real-time’ monitoring and reporting framework to drive performance among key stakeholders.
- Delivered targeted marketing and communications activities, including the award-winning Ending HIV campaign.

Lessons learned: From January-September 2015, HIV testing in laboratories increased by 7%, 11% and 18% compared with January-September 2014, 2013 and 2012. From July-September 2015, there was a 68% increase in HIV testing at sexual health services among gay men compared with the same period in 2014. Self-reported HIV testing rates among gay men were the highest on record since 1996, with 76% surveyed in 2014 and 75% surveyed in 2015 reporting an HIV test within the last 12 months. From January-September 2015, there were 247 new HIV diagnoses in NSW, 7% less than the 2009-2014 average during the same period. Of these, 41% had evidence of early stage infection; less than the January-September 2009-2014 average of 46%.

Conclusions/Next steps: The combination of increases in HIV testing, a decrease in new diagnoses count and evidence for reductions in early stage diagnosis suggest a reduction in HIV transmission. The diversity and range of program efforts have contributed towards NSW HIV Strategy targets. However, further innovations are needed to meet the Strategy’s goal of virtual elimination of HIV transmission by 2020, including the introduction of self-sampling testing to reach high-risk populations testing infrequently for HIV.
A cohort study of community-based test and treat for men who have sex with men and transgender women: preliminary findings from Thailand


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Background: HIV prevalence is high among men who have sex with men (MSM) and transgender women (TG) in Thailand. We explored the feasibility of the community-based Test and Treat strategy conducted by community-based organization (CBO) staff, to provide early case identification and immediate antiretroviral therapy (ART), for MSM and TG.

Methods: MSM and TG were recruited into an operational research cohort through 5 CBOs in Bangkok, Pattaya and Chiang Mai. Trained CBO staff provided same-day result HIV testing and sexually transmitted infection (STI) screening at baseline. At diagnosis, HIV-positive individuals had point-of-care CD4 count measurements and ART immediately offered. Data on demographic, risk behavior, knowledge and attitudes towards HIV and ART were collected using self-administered questionnaires.

Results: From May to November 2015, 1,029 participants were enrolled (71% MSM and 29% TG). HIV prevalence was 17% (20% in MSM: 8% in TG). HIV-positive participants were more likely to
i) have never had HIV testing (72% vs. 42%, p<0.001);
ii) have been screened positive for STIs (58% vs. 29%, p<0.001);
iii) perceive themselves to be moderate to high risk for HIV (62% vs. 48%, p=0.001);
iv) had unprotected sex in the past 6 months (87% vs. 78%, p=0.01);
v) have used amphetamine-type stimulants in the past 6 months (12% vs. 7%, p=0.02); and
vi) have low knowledge on HIV transmission routes (p=0.007).

Overall, 39% knew that ART could reduce HIV risk for their partners. Among 172 HIV-positive, 141 (82%) accepted immediate ART while 31 declined or did not start ART after more than 2 weeks of diagnosis. Binary logistic regression identified being sex workers or unemployed (OR 0.40, 95%CI 0.16-0.98, p=0.046) and having used illicit drugs in the past 6 months (OR 0.26, 95%CI 0.11-0.63, p=0.003) to be factors associated with unsuccessful ART initiation.

Conclusions: Implementing the community-based Test and Treat strategy by trained CBO staff is feasible in Thailand. Overall acceptance and success of immediate ART initiation were high. Additional efforts are needed to more effectively target HIV-positive MSM and TG who are unemployed, sex workers or using drugs in order to strengthen linkages to care and treatment.
WEPEA001

GENETIC VARIABILITY OF HIV-1 IN THE NORTH-WEST OF BENIN, AFRICA: THE RISE OF COMPLEX CIRCULATING RECOMBINANT FORM 30_0206 (CRF30_0206)

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Background: West and Central Africa is characterized by the birth of the greatest number of circulating and unique recombinant forms (CRF and URF). Recent reports show the rise of CRF30_0206, a more complex recombinant strain, identified for the first in parts of West Africa (Burkina Faso and Niger). Benin is a West African country with a relatively low seroprevalence and failing reports about the HIV subtypes and CRFs circulating. The aim of this study is the evaluation of HIV subtypes and CRFs circulating in a rural area of the north-West of Benin, on the commercial route with Burkina Faso and the other neighboring country.

Methods: Plasma samples were collected from 57 HIV-positive patients associated with the Fatebenefratelli Saint Jean de Dieu Hospital in Tanguiéta, located in the north-West of Benin. A portion of HIV-1 reverse transcriptase (RT, codons 38-247) and protease (PR, codons 4-99) genes were sequenced. For phylogenetic analysis, a neighbor-joining tree was built with Tamura-Nei substitution model and 1000 replicates (Bootstrap value ≥ 70%) was considered significant. Unknown sequences were examined using SimPlot (Similarity Plotting) and/or aligned with Basic Local Alignment Search Tool (BLAST) search engine.

Results: Phylogenetic analysis showed that CRF02_AG was predominant, followed by CRF06_cpx, subtype A and subtype G (Figure 1a). Finally, 6 (11%) sequences were included in CRF30_0206-like groups because they showed a different pattern of recombination in PR and/or in RT region or a suspected recombinant event in the region not sequenced (Figure 1b).

Conclusions: The study shows, for the first time, presence of a new circulating recombinant form (CRF30_0206) in Benin, probably linked to the contact of this area with the neighboring country.

WEPEA002

HIV-1 SUBTYPE-SPECIFIC CONSTRAINTS ON VIRAL ESCAPE FROM HOST CELLULAR IMMUNITY

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Background: HIV-1 mutational escape from cellular immunity is predictable based on host HLA. However, the extent to which viral genetic context influences HIV-1 escape pathways remains incompletely understood. We investigate this by studying HIV-1 sequences paired to host HLA genotypes from Uganda, where multiple HIV-1 subtypes and CRFs co-circulate in a single host population. We focused on the two predominant HIV-1 subtypes in Uganda, A and D.

Methods: We performed high-resolution HLA class I typing and HIV-1 Gag, Pol and Nef plasma RNA genotyping for 513 antiretroviral-naïve individuals from Kampala and Mbarara, Uganda. After exclusion of recombinant and non-subtypeA/D sequences, datasets of approximately N=200 (subtype A) and N=135 (subtype D) remained for analysis. First, HLA-associated polymorphisms were identified in each HIV-1 subtype via statistical association with phylogenetic correction. We then took the union of all HLA-associated polymorphisms identified and compared their strength of selection in subsets of A vs. D using a phylogenetically-corrected logistic regression approach to identify instances of differential selection between subtypes. Multiple tests were addressed using q-values.

Results: Of the 103 unique HLA alleles observed in study participants, none differed in frequency between subtype A and D datasets, consistent with co-circulation of multiple HIV-1 subtypes in a single population. Overall, 83 Gag, 198 Pol and 105 Nef HLA-associated polymorphisms were identified in subtype A and/or D at q<0.2 (all p<9x10^-10). Of these, 34%, 39% and 27% in Gag, Pol and Nef, respectively, exhibited significant differential selection between the two subtypes (p<0.05; q<0.1). For example, HLA-B*57:03 was strongly associated with selection of Gag-T242N in subtype D (Odds Ratio [OR]=250; p=1x10^-9), but not in subtype A (OR=1.8; p=0.08), a difference that was highly significant (inter-subtype comparison p=8x10^-10; q=0.001). This raises the hypothesis that the subtype A consensus proline at adjacent Gag codon 243, which differs from the consensus leucine observed in most other subtypes including D, is incompatible with T242N.

Conclusions: Our results support HIV-1 subtype-specific genetic constraints on immune escape and identify a large number of candidate cases for functional verification. Characterization of subtype-constrained HIV-1 escape pathways may help identify subtype-specific mutuationally-constrained viral regions for vaccine design strategies.
WEPEA006
IMPACT OF GAG-PROTEASE MUTATIONS ON VIRAL FITNESS AND DRUG SUSCEPTIBILITY IN HIV-1 SUBTYPE C INFECTED PATIENTS FAILING A PROTEASE INHIBITOR INCLUSIVE TREATMENT REGIMEN FROM DURBAN, SOUTH AFRICA

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Background: Virologic failure due to protease inhibitor (PI) resistance is increasing, even in the absence of mutations in protease (PR). Studies on HIV-1 subtype B attribute this to mutations in Gag, however information is limited for HIV-1 subtype C, the most prevalent subtype globally. We aimed to investigate mutations in HIV-1 subtype C full-length Gag-Protease and their impact on viral fitness and drug susceptibility.

Methods: Gag-Protease amplicons of 80 patients failing a PI inclusive treatment regimen were sequenced and co-transfected with pNL4-3gag-protease to produce chimeric viruses which were subject to: a replication capacity (RC) assay using a green fluorescent protein GXR reporter cell line and a phenotypic drug susceptibility luciferase-based assay. Associations of Gag-Protease mutations with RC and drug susceptibility were confirmed by site-directed mutagenesis (SDM).

Results: Eight known Gag RAMs (i.e. R76K, Y79F, V128I, A431V, K436R, L449F, P453L) and four novel Gag mutations, possibly associated with PI failure, (i.e. G69K, S111C, T239A/S and I256V) were identified. Samples with PR RAMs (M46I, I54V, V82A and/or L76V) had a significantly lower RC than samples without PR RAMs (P<0.0001). Samples with Gag RAMs showed no difference in RC compared to samples without Gag RAMs (P>0.001). Samples with both PR RAMs and Gag mutations had significantly lower RC than samples without Gag mutations (P<0.001). The A431V mutation was the only Gag mutation significantly associated with reduced RC. Interestingly, the G69K novel gagemutation rescued viral replication and increased viral cleavage of samples harboring the A431V Gag RAM, without altering viral susceptibility. This was confirmed by SDR. All samples with PR RAMs showed reduced susceptibility to LPV and DRV whilst only certain combinations of Gag mutations, in the absence of PR RAMs, displayed reduced susceptibility to LPV and DRV.

Conclusions: Overall we identified novel mutations in Gag associated with PI failure. We showed that certain Gag mutations can rescue RC of viruses harboring Gag and PR RAMs and that viruses with certain Gag mutations can confer reduced susceptibility to PR in the absence of PR RAMs. This data advocates for the inclusion of gagemutations in PI resistance algorithms.

WEPEA007
HIV-1 GROUPS M+O DUAL INFECTIONS AND HIV-1/M0 RECOMBINANT FORMS CIRCULATING IN CAMEROON

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Background: Cameroon is considered as the epicenter of HIV-1 group O. Therefore, the simultaneous presence of HIV-1 groups M and O in the country provides an ideal environment for HIV-1 groups M+O dual infections to occur and the emergence of HIV-1/M0 recombinant forms. To date, no data on the prevalence of these forms are available. In this work, we determined the proportions of M+O dual infections and/or presence of M/O recombinant, a recombinant point in the proviral gene was investigated. Genetic profile of recombinants was characterized by full length genome sequencing and genetic link with previous recombinants was investigated by phylogenetic and recombination analyses.

VIRAL DYNAMICS AND FITNESS

WEPEA005
NATURAL VARIATION AND CO-VARIATION OF THE HIV-1 INTEGRASE IN DRUG-NAIVE NEWLY DIAGNOSED HIV-1 INFECTIONS IN GERMANY

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Background: The objective of our study was to analyse the natural evolution of the HIV-1 integrase. For the first time integrase sequences of HIV-1 infections newly diagnosed between 1986 and 2006 in Germany were analysed to determine time trends of natural variation and co-variation of amino acid substitutions in the viral enzyme prior to the approval of integrase inhibitors (INI) in 2007.

Methods: The population sequences of HIV-1 integrase (amino acids 1-278) were determined from 386 archived EDTA-plasma samples of newly diagnosed patients (N=337). Resistance-associated mutations were identified according to the IAS 2014 list and the Stanford HIVdb genotype resistance interpretation. Time trends of variation were identified by linear regression examined by bootstrap distributions and corrected for multiple testing. Co-variation was assessed by mutual information values in combination with Jaccard index.

Results: Some established minor INI resistance mutations (T124A, V151I, K156N, T206S, S230N) and potential resistance mutations to new INI (T124N, V165I, V201I) were detected, indicating that populations were in linkage equilibrium. Next generation sequencing approaches focusing on specific regions in gag will be useful in characterizing intra-patient diversity.

WEPEA004

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**Results:** Among the 275 patients, 47 were HIV-1/O mono-reactive, 199 HIV-1/M mono-reactive and 29 were M+O dual reactive. Mono-infections with HIV-1/O were confirmed by RT-PCR in 48 patients (17%) and HIV-1/M in 217 (79%). For 3 patients (1%) all RT-PCR were negative. M+O dual infections were identified in 4 patients (1.4%) and the presence of recombinants forms were confirmed in 3 patients (1%). The first recombinant form was associated with ‘parental’ strain HIV-1/M and two breakpoints were identified (yup and LTR). Two breakpoints were also present (ypr and LTR) in the two other recombinants but no parental strain was found. These two recombinants were identified in couple and the great similarity between the two viruses showed that both spouses were infected with a unique recombinant virus. The recombination patterns [M-O-M] were identical for the three recombinants described here but no link with previous recombinants was found. The recombination patterns [M-O-M] were identical for the three recombinants described here but no link with previous recombinants was found.

**Conclusions:** Our results confirmed the co-circulation of HIV-1/M+O dual infections and HIV-1/MO recombinants in Cameroon. Their distinct recombination profiles demonstrate the complexity of these recombinants. The transmissibility of an HIV-1/MO recombinant form described here point out the diffusion potential of such forms and emergence of CRF_MO.

**WEPEA009**

**ENDOGENOUS TRIM5A FUNCTION IS REGULATED BY SUMOylation AND NUCLEAR SEQUESTERATION FOR EFFICIENT INNATE SENSING IN DENDRITIC CELLS**

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**Background:** During retroviral infection, viral capsids are subject to restriction in the cytoplasm by the cellular factor TRIM5a. For instance, rhesus macaque (RM) TRIM5a restricts HIV-1, SIVagm, and N-MLV, but not SIVmac, whereas human TRIM5a can block N-MLV and EIAV, but is less effective against HIV-1 (Bieniasz, 2004). However, while RM T lymphocytes efficiently block HIV-1 infection, we have previously shown that GM dendritic cells (DCs) lack TRIM5a activity and are permissive to HIV-1 infection (Arhel et al., 2008). Recent work proposed that TRIM5a is a SUMO substrate and its restriction may be modulated by the SUMO machinery (Arragada et al., 2011; Dutrieux et al., 2015). The aim of this study is to characterize whether TRIM5a SUMOylation participates in the permissiveness of DCs to HIV-1 infection.

**Methods:** To assess endogenous TRIM5a localization in PBLS and DCs from human and RM donors cells were co-labeled with the TRIM5a and GM-130, PML and Collin antibodies. TRIM5a SUMOylation was investigated by gingkolic acid (GA) treatment, a SUMOylation inhibitor. The inhibitor (IFN) and a b, IL-6 and cGAS levels in DCs were assessed by qPCR after HIV-1, N-MLV and EIAV infection. The function of E3 SUMO ligases was investigated using stable RNA interference.

**Results:** In DCs, endogenous TRIM5a accumulates in nuclear bodies that partly co-localize with Cajal bodies in a SUMOylation-dependent manner. Nuclear sequestration of TRIM5a allowed potent induction of type I IFN responses during infection, mediated by sensing of reverse transcribed DNA by cGAS. Overexpression of TRIM5a or treatment with the GA resulted in enforced cytoplasmic TRIM5a expression and restored efficient viral restriction but abrogated type I IFN production following infection.

**Conclusions:** Our results demonstrate that DCs TRIM5a is sequestered in the nucleus in a SUMOylation-dependent manner, favoring innate sensing of retroviruses in the cytoplasm by cGAS and thus an antiviral response. This work adds to our understanding of how retrovirus restriction factors are regulated.

**WEPEA010**

**HIV-1 CRF07_BC DISPLAYS SLOW DISEASE PROGRESSION AND DELAYED TYPE OF VIRAL BUDDING**

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**Background:** HIV-1 circulating recombinant form 07_BC (CRF07_BC) has been reported to cause serious HIV-1 epidemics among injecting drug users (IDUs) in Asia. 7-13 amino-acid deletion in the p6 region was illustrated. This deletion contains Alix binding domain. Alix is known to coordinate with ESCRT complex to promote HIV-1 budding through interacting to the HIV-1 p6 domain. Limited information is available regarding the viral characteristics and impacts of HIV-1 CRF07_BC on disease progression and virus replication.

**Methods:** A cohort study was conducted to compare viral loads and changes of CD4+ cells between patients infected with subtype B and CRF07_BC. Viral replication kinetics and virus release efficacy were performed to compare the differences between subtype B and CRF07_BC. Site direct mutagenesis was used to construct the 7 amino acid deleted infectious clone. Co-immunoprecipitation and total internal reflector...
Transcriptional and Gene Expression Regulation (Including Regulatory Genes)

WEPEA11
CHANGES IN REV IN HIV ISOLATES FROM DIFFERENT CLADES HAVE A SIGNIFICANT IMPACT ON REV/RRE FUNCTIONAL ACTIVITY

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Background: HIV-1 replication requires the nucleocyttoplasmic export of intron-containing mRNAs which is ordinarily restricted. HIV accomplishes this by means of interaction of the viral Rev protein and an RNA secondary structure called the Rev Response Element (RRE). Recent work in subtype B from our group and others has demonstrated that the Rev/RRE regulatory axis functions as a rheostat to modulate viral protein production and replication. For this reason, we examined Rev/RRE functional activity in non-subtype B isolates.

Methods: Rev/RRE function was assayed using an HIV vector system. The vector transduces target cells to become resistant to hygromycin, and vector titer correlates with Rev/RRE function. Rev/RRE cognate pairs from two subtype A, two G, four CRF02_AG, and three B viruses were compared to determine the degree of activity variation. Artificial Rev/RRE pairs were also created to permit assay of Rev and RRE contributions to activity individually. Steady state levels of Rev protein were determined by Western blotting.

Results: The Rev/RRE functional activity of cognate pairs varied 24-fold from the least to most active virus. Large intra-subtype activity variation was observed for subtype G. An analysis was performed of the variation in activity of the individual RREs and Revs. There was no correlation between variation in RRE activity and that of the corresponding cognate pair. Rev activity did correlate closely with cognate pair activity (R²=0.7248). Some artificial Rev/RRE combinations displayed greater functional activity than the original cognate pairs. There was no correlation between Rev expression and cognate pair activity (R²=0.1174).

Conclusions: There is significant variation in Rev/RRE functional activity between non-subtype B HIV isolates. This variation tracks with Rev sequence but not with the RRE. Variation in Rev activity cannot be explained by differences in protein expression. Differences in Rev amino acid sequence and/or Rev/RRE intracellular complexes may be responsible for modulating the activity of this regulatory axis. Further research using non-subtype B viruses may further clarify the structural determinants of Rev/RRE activity and lead to greater understanding of the role of Rev/RRE in pathogenesis.

Viral Replication (Including Necessary Cellular Elements)

WEPEA13
METABOLIC DEPENDENCY OF HIV-1 REPLICATION: GLUCOSE AND GLUTAMINE METABOLISM IN HIV-INFECTED PRIMARY CD4+ T CELLS

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Background: All viral replication cycles are dependent on the host cell for provision of biosynthetic and bioenergetic resources to support virion biogenesis. We investigated ways in which HIV-1 is dependent on, and modulates the activity of, host metabolic pathways. Activated CD4+ T cells are the primary target for HIV-1 infection and replication, and are characterised by high rates of glycolysis and glutaminolysis. Thus, we have investigated the role of glucose and glutamine in vitro HIV-1 infection studies.

Methods: Metabolome profiling, heavy-isotope tracing and starvation/supplementation studies to investigate the metabolic activity of HIV-1 infected cells. Virus replication as well as cell proliferation and survival were assessed by a combination of ELISA, western blotting and flow cytometry.

Results: We observed elevated glycolysis in HIV-1 infected primary CD4+ T cells. By providing cells with the alternative carbohydrate galactose that cannot support glycolysis, we demonstrated that glycolysis is required for HIV-1 virion biogenesis and also predisposes infected cells to apoptosis. We further investigated the role of glutamine in HIV-1 infection. We detected elevated levels of glutamine in HIV-1 infected compared with uninfected primary CD4+ T cells, but found no evidence that entry of glutamine into the citric acid cycle is significantly altered upon infection with HIV-1. Instead, we have preliminary data from NMR studies with C13-
labeled glutamine that the secretion of glutamine-derived metabolites is altered in HIV-1 infected cells.

Conclusions: We have demonstrated dependency of HIV-1 replication on glycolysis and glutamine metabolism as well as significant upregulation of glycolysis by HIV-1. Our data support the notion that HIV-1 infected primary CD4+ T cells operate at their maximum glycolytic capacity, which is also associated with elevated apoptosis. Our studies have the potential to reveal metabolic factors that might serve as novel drug targets for antiretroviral therapy. Furthermore, HIV-1 carriers that receive ART are at risk for developing metabolic syndrome, which will cause many of these individuals to receive additional therapy to relieve those symptoms in addition to their HIV infection. It will be important to gain an understanding how such metabolic interventions may impact on virus replication and reservoir establishment in the face of ART.

WEPEA14

DEPENDENCY OF HIV-1 REPLICATION ON AND VIRAL MANIPULATION OF THE GLYCOLYTIC METABOLISM OF ACTIVATED PRIMARY CD4+ T CELLS

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Background: HIV-1, like all viruses, relies entirely on the host cell to provide bio-synthetic resources to complete its life cycle. Glycolysis converts glucose to pyruvate and lactate, generating biosynthetic components and a small amount of ATP. Our laboratory recently reported that HIV-1 infection increased flux through the glycolytic pathway in primary CD4+ cells. This research is investigating the mechanisms of increased glycolytic metabolism in HIV-1 infection in primary CD4+ T cells.

Methods: To investigate the interplay between HIV-1 infection and cellular metabolism, primary CD4+ T cells were cultured in galactose or glucose, with galactose preventing glycolysis but maintaining cell viability and proliferation. Glucose uptake inhibitors were used to investigate the roles of glucose transporters in increased glycolysis and HIV-1 infection. Glycolytic flux were analysed in real-time with the Seahorse XF24 extracellular flux analyser. To determine the impact of alterations in the cells metabolic state upon HIV-1 virion production, p24Gag ELISA and TZM-bl assays were performed.

Results: Using galactose or glucose to manipulate the metabolic state of primary CD4+ cells, we demonstrate that HIV-1 replication is dependent on the ability of the host cell to engage glycolysis. In order to investigate if glycolysis is also required to support the integrity of assembling virions, we compared the infectivity of HIV-1 vi

WEPEA15

EXPLORING THE ROLE OF PHOSPHORYLATION AS REGULATORY MECHANISM INDUCED BY HIV-1 T-TO FAVOR VIRUS REPLICATION

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Background: It is known that HIV-1 regulates post-translation modifications to reprogram cellular signaling mechanisms. In particular, it has been demonstrated that HIV-1 modulates host cell phosphorylation pathways in order to favor its own replication (Wojcechowskyi JA et al, Cell Host & Microbe 2013). Here, we have aimed to identify new host factors regulated by HIV-1 through phosphorylation, performing a global analysis of phosphoproteoma of both CD4+ T cells from viremic naive patients and healthy CD4+ T cells exposed in vitro to viral antigens.

Methods: CD4+ T-cells were purified from PBMCs of 22 patients and 21 donors by negative immunomagnetic separation. Aliquots of healthy CD4+ T-cells were sepa

VIRAL MECHANISMS OF HIV/SIV PERSISTENCE AND LATENCY

WEPEA16

HUMAN CYTOMEGALOVIRUS LATENT INFECTION MODULATES HIV RESTRICTION FACTORS IN CD34+ HEMATOPOIETIC STEM CELLS

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Background: Individuals pre-exposed to human cytomegalovirus (HCMV) are more prone to HIV/AIDS disease progression but the reasons remain elusive. HCMV is a ubiquitous DNA virus that establishes natural lifelong latent infection in CD34+ progenitor cells, where latency-specific viral genes modulate the host cell environment. Myeloid-lineage cells are known to resist replicative HIV-1 infection but recent studies provided evidence that latent reservoir may be established in CD34+ myeloid progenitors. Therefore, an intricate relationship between HCMV and HIV-1 may occur in these cells.

Methods: CD34+ cells isolated from healthy PBMCs were cultured in specialized media for ~30 days to allow expansion. Phenotype of CD34+ subsets were assessed by flow cytometry before infection by HCMV. Establishment of HCMV latency and modulation of cellular responses were assessed using real-time PCR and plaque assay. X4/R5-HIV-1 was used to infect CD34+ cells harboring latent HCMV and successful HIV-1 infection was examined for proviral DNA by digital PCR.

Results: Peripheral blood-derived (PB-)CD34+ cells expanded up to 50-fold after 30 days in culture and retained early progenitor phenotype. The success of the establishment of HCMV latency was assessed by the detection of latency-specific transcripts UL111.5A, LUNA and UL138, lack of infectious virions, and the ability to reactivate upon co-culture with permissive cells. Importantly, latent HCMV infection downregulated the HIV-1 restriction factors SAMHD1, APOBEC3/G, tetherin and Mx2 in PB-CD34+ cells, which led to higher HIV-1 transcriptional activity and proviral DNA. Interestingly, these cells retained HCMV-induced downmodulation of MHC class II molecules and did not show differentiation tendency. Furthermore, we demonstrated that the expression of CXCR4 and CCR5 on CD34+ cells were not altered by HCMV latent infection, but HIV-1 infection can be inhibited by antiretrovirals. Lastly, using a dual-reporter pseudovirus, infection of latent HCMV PB-CD34+ cells resulted in increased active infection compared to mock cells.

Conclusions: This study describes an in vitro CD34+ cell expansion culture model to study the establishment of HCMV and HIV-1 infections. Furthermore, we demonstrated that interplay exists between latent HCMV and HIV-1 infection in CD34+ progenitor cells. These findings provide insights into the importance of pre-existing latent HCMV that affects HIV-1 infection outcome.
**CELLULAR AND TISSUE RESERVOIRS OF HIV/SIV**

**WEPEAO17**

**MEMORY CD4+ T CELLS EXPRESSING HLA-DR CONTRIBUTE TO HIV PERSISTENCE DURING PROLONGED ART**

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**Background:** Most measurements of HIV reservoirs are performed using "resting" CD4+ T cells depleted for cells expressing HLA-DR, which is considered an activation marker. However, little is known about the possible roles of these cells in HIV persistence during ART. Here we examine the contribution of memory CD4+ T cells expressing HLA-DR to HIV persistence after prolonged ART (≥21 yrs).

**Methods:** Using LTR-specific qPCR, HIV RNA and DNA were quantified in memory CD4+ T cells expressing HLA-DR or not from 6 participants (P1-P6) on ART (≥21 yrs). Using single-genome/proviral sequencing, we characterized HIV RNA/DNA (p6-RT) sequences from HLA-DR+ and HLA-DR- memory T cells, central (CM), transitional (TM), and effector (EM) memory T cells. Clonal expansions were defined as ≥2 identical sequences in phylogenetic trees.

**Results:** CD4+ HLA-DR+ and HLA-DR- memory cells contained a median of 3400 and 1000 HIV-1 RNA/copy/million cells; and 36 and 60 HIV-DNA copies/million cells respectively, indicating the HIV transcriptional activity of HLA-DR+ cells is 6-fold higher than HLA-DR-. In participants treated during chronic infection, proportions of HIV-DNA clonal expansions were similar between HLA-DR+ and HLA-DR- memory T cells but HIV-DNA sequences from EM were more often identical to HIV-DNA sequences from HLA-DR+ memory cells (43% P1, 58% P2) than CM and TM (8-18% P1; 8-44% P2; p<0.0001-0.03). For one participant treated during acute infection, approximately 50% of the sequenced HIV-DNA from HLA-DR- memory T cells, CM, TM, and EM was defective (hypermutated and/or containing stop codons) and 26% of HIV-DNA from HLA-DR- memory T cells was defective. However, the amount of defective HIV-DNA and RNA from HLA-DR+ memory T cells was much lower (21% and 0% respectively).

**Conclusions:** These findings demonstrate that memory CD4+ T cells expressing HLA-DR contain persistent HIV-DNA and measurable HIV-RNA. Furthermore, these cells appear to contain more intact virus in the region sequenced than other cellular subsets. Therefore, measurements of the HIV reservoir during ART should include memory cells expressing activation markers, including HLA-DR. HLA-DR+ and EM cells had clonal expansions of genetically identical HIV-DNA, suggesting these cell subsets replenish the HIV reservoir through proliferation during prolonged ART.

**WEPEAO18**

**IS THE UONG A SITE OF PRODUCTIVE HIV INFECTION THAT PERISTH THROUGH ART?**

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**Background:** HIV persistence is maintained by viral reservoir(s) discrete from the peripheral viral population. These viral reservoirs are particularly significant during the rebound of peripheral viremia following failure of anti-retroviral therapy (ART). Using Fluorescent in situ Hybridization (FISH)-based detection system we demonstrated previously that chronically HIV-infected, ART-naive individuals have virus in their lungs that is present predominantly in alveolar macrophages (AM). AM are long-lived cells that could represent an under-appreciated reservoir for HIV.

**Methods:** HIV mRNA was detected by FISH. The ability of cells isolated by bronchoalveolar lavage (BAL) to generate infectious virus was probe using a novel reporter cell line constructed to express GFP in a tat/rev-dependent manner. Further characterization of the co-receptor utilization of these viral populations is being conducted using the Affinofile cell line expressing differing levels of CD4 and CCR5.

**Results:** Here we show that AM from Malawian HIV-1-infected adults who had been on ART for extended periods (>1 yrs) remain positive for HIV-1 gag mRNA. The majority of these individuals possess a plasma viral burden below the limit of detection. To probe for production of infectious virus, we used a reporter cell line that exhibited HIV tat/rev-dependent expression of GFP and was permissive to infection when co-incubated with HIV-1-positive human monocyte-derived macrophages (HMDM) in culture. When co-cultured with BAL cells from ART-naive HIV-infected individuals we could readily detect infection of the fluorescent reporter cell line. Furthermore, we also demonstrated production of infectious virus in individuals on extended ART, who lacked peripheral viremia but had detectable HIV-1 gag mRNA in their AM. The further characterization of the cell-tropism and infectious characteristics of this viral population is currently under investigation using Affinofile cells under differing levels of induction of CD4 and CCR5.

**Conclusions:** AMs are extremely long-lived cells that are not killed by HIV-infection. This raises the possibility that HIV-1-infected AMs could contribute to the maintenance of productive HIV infection that persists through long-term ART. Phenotypically, with respect to the evolution of viral diversity, drug suppression of transcriptionally-active, HIV-infected AMs by ART would be indistinguishable from the arrested genomic diversity observed as a result of latent infections.
TARGETING HIV PERSISTENCE DURING ART (CURE STRATEGIES)

WEPEA020
THERAPY WITH THE IMMUNOMODULATORY AGENT POMALIDOMIDE DOES NOT LEAD TO CHANGES IN HIV-1 VIRAL POPULATIONS IN VIVO

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Background: HIV persistence in long-lived infected cells represents a barrier to viral eradication. Immune modulatory agents (IMiDs), including pomalidomide, have marked effects on T cell function, including increased CD4/CD8 proliferation (Polizzotto et al 2014). However, the impact of IMiDs on the HIV reservoir is unknown. We evaluated the effect of pomalidomide on HIV reservoirs by characterizing the size, structure and dynamics of HIV populations in individuals undergoing pomalidomide treatment.

Methods: HIV-1 infected individuals (14 males, median age 49.5 years, median CD4=437 cells/µl) undergoing combination antiretroviral therapy with HIV RNA < 50 copies/ml, enrolled in an NCI trial (NCT01495598) of pomalidomide (5 mg/day for 21 days per 28 day cycle) for co-morbid Kaposis sarcoma were studied. PBMCs were obtained at study entry, following cycle 2, and at therapy completion (median 7 cycles). Levels of plasma RNA, peripheral blood mononuclear cell (PBMC) associated HIV DNA and RNA were determined (dbPCR, real time PCR), and HIV populations analyzed using single genome sequences obtained from the p6-RT region of PBMC-derived HIV DNA. Sequences were aligned (CLUSTALW), analyzed to characterize phylogenetic structure (MEGA), population shifts (geographic subdivision), and migration (Simmonds Al, Statkin-Maddison in HyPhy).

Results: Participants tolerated pomalidomide without complications. Levels of plasma RNA, PBMC-associated HIV DNA (CAD) and RNA (CAR) at study entry range (<0.5–58, median 1.5 RNA copies/ml; range 102-2072, median 779 CAD copies/million PBMC; range 220-1600, median 470 CAR copies/million PBMC) did not undergo significant change (p>0.16 RNA, p>0.29 CAD, p>0.53 CAR) after two cycles of pomalidomide or at study completion (p>0.25 RNA, p>0.53 CAD, p>0.27 CAR). HIV populations were genetically diverse at baseline (average pairwise difference, range 0.5-2.4 %) and included identical sequences. No evidence of expansion, population shift, or migration of any viral population was detected during or following pomalidomide therapy; some identical sequences persisted throughout study period. Minor changes in populations were detectable by pairwise difference analysis. We also demonstrated a significant reduction of HIV replication after six days of culture in SupT1 cells (single gRNA (82%-97%); two gRNAs (93%-99%)). Reduction in viral replication could be directly correlated to the number of CRISPR/Cas9 induced changes in the target sites (mostly indels). Independent of the potency of the gRNAs, selection of resistance was observed for all single gRNAs. However, all combinations of two potent gRNAs resulted in the generation of such a large number of CRISPR/Cas9 induced mutations (mostly indels) that viral replication could not be rescued after months of in vitro selection.

Conclusions: This is the first study to demonstrate that combining potent gRNAs targeting different steps in the viral lifecycle can prevent the selection of resistance.

WEPEA022
COMBINATORIAL CRISPR/CAS9 APPROACHES TARGETING DIFFERENT STEPS IN THE HIV LIFE CYCLE CAN PREVENT THE SELECTION OF RESISTANCE

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Background: HIV presents one of the highest mutation rates, which in combination with a fast replication rate and a large population size accelerates viral evolution. Combination antiretroviral therapy can overcome the plasticity of the virus population and profoundly control viral replication. However, conventional treatment lacks the ability to stop viral production and clear the latent reservoir, which remains the major obstacle towards cure. Novel strategies, such as CRISPR/Cas9 genome editing, are required to permanently disrupt the HIV genome in the latently infected cells. In this study we investigated the ability of HIV to escape the CRISPR/Cas9 endonucleases targeting different steps in the viral life cycle.

Methods: The CRISPR/Cas9 system is comprised of a Cas9 protein, which in combination with a guideRNA (gRNA), is able to cleave a complementary dsDNA sequence. gRNAs were designed to target HIV-LTR, protease, reverse transcriptase, integrase and matrix. The CRISPR/Cas9 system was cloned in a lentivirus vector and transduced in SupT1 cells and the J.Lat Full-Length Clone 15-4. In the latter cells, impact of CRISPR/Cas9 on HIV reactivation was investigated. Transduced SupT1 cells were infected with HIV and viral replication and escape was monitored. On- and off-targeting efficiency (three genes per gRNA) and viral escape was assessed by deep sequencing.

Results: The CRISPR/Cas9 endonuclease induced efficient HIV genome editing (75%-99%), while off-target efficiency was < 0.9%. Subsequent TNFa-induced HIV reactivation was significantly reduced (single gRNA (40%-95%); two gRNAs (>98%). We also demonstrated a significant reduction of HIV replication after six days of culture in SupT1 cells (single gRNA (82%-97%); two gRNAs (93%-99%)). Reduction in viral replication could be directly correlated to the number of CRISPR/Cas9 induced changes in the target sites (mostly indels). Independent of the potency of the gRNAs, selection of resistance was observed for all single gRNAs. However, all combinations of two potent gRNAs resulted in the generation of such a large number of CRISPR/Cas9 induced mutations (mostly indels) that viral replication could not be rescued after months of in vitro selection.

Conclusions: This is the first study to demonstrate that combining potent gRNAs targeting different steps in the viral lifecycle can prevent the selection of viral resistance.
ENHANCING HIV-1 VIRION TETHERING BY BST2/TETHERIN SENSITIZES PRODUCTIVELY AND LATENTLY INFECTED T CELLS TO ADCC MEDIATED BY BROADLY NEUTRALIZING ANTI-HIV ANTIBODIES

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Background: Increasing evidence supports a role of Antibody-Dependent Cell-mediated Cytotoxicity (ADCC) in controlling HIV transmission and disease progression. HIV has evolved several mechanisms to limit the recognition of ADCC- preferred Env epitopes on infected cells. We previously reported that HIV-1 uses Nef- and Vpu-mediated CD4 downregulation to efficiently reduce exposure of Env epitopes recognized by AD2, a non-neutralizing, CD4-induced ADCC-competent antibody. Moreover, BST2 antagonism by Vpu limits A232 binding to gp120 on infected cells. BST2 is a type I interferon (IFN)-upregulated restriction factor that inhibits HIV-1 release by tethering nascent virions at the surface of infected cells. In this study, we hypothesized that broadly neutralizing anti-HIV antibodies (bNabs) can also mount ADCC response and that in this context, physical tethering of virions by BST2 will promote ADCC.

Methods: Primary CD4+ T cells or T cells expressing only CD4, BST2, or both were infected with wild-type (WT) HIV or viruses deficient for Nef, Vpu or both proteins. Infected T cells were examined by flow cytometry for Env recognition by anti-HIV Env antibodies and susceptibility to ADCC.

Results: Using CD4+ T cells infected with CCRS-tropic laboratory-adapted or trans- mitted-moulder HIV strains, we show that bNabs efficiently induce ADCC, with those targeting the N332 glycan-v3 loop (e.g., PGT121 or PGT126) or CD4-binding site (e.g., 3BNC117) being most potent. For most bNabs, BST2 counteraction effectively attenuates Env recognition and ADCC activity. Conversely, IFNα treatment enhances antibody binding to Env and potentiates ADCC in a BST2-dependent manner. Importantly, upon reactivation with HDAC inhibitors, latently infected T cells become potent targets of ADCC, with exogenous IFNα promoting further their elimination by bNabs such as PGT121. Lastly, we find that modulating the levels of surface gp120 in a CD4-bound conformation, via Vpu and Nef, affects ADCC activity of only 17b, which binds the co-receptor binding site.

Conclusions: Overall, our study indicates that physical retention of HIV virions by BST2 at the cell surface sensitizes infected cells to ADCC by most classes of bNabs. Strategies aimed at restoring the BST2 restriction represent a promising avenue to enhance clearance of latent viral reservoirs by ADCC in “Shock and Kill” cure approaches.

WEPEA023

NOVEL ACTIVATORS AND SUPPRESSORS OF LATENT HIV-1 FROM NATURAL PRODUCTS

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Background: Combination antiretroviral therapy (cART) durably suppresses HIV replication, but virus persists in cellular reservoirs. Latency reversal agents (LRAs) capable of reactivating HIV-infected cells may promote their elimination through host or viral cytopathic effects; an approach termed “shock-and-kill.” However, current LRAs have shown limited clinical success, and no single LRA reactivates all latent cells. Conversely, “deep-latency” agents (DLAs) that promote long-term suppression of viral transcription that is refractory to subsequent reactivation are few in number and not yet assessed in vivo. Thus additional LRAs and DLAs are needed.

Methods: We examined 433 pure compounds from marine natural products and medicinal plants using I-Lat.8.4 GFP-reporter T cells containing an NL4.3pmRf/gene. Compounds that induced GFP in >5% of cells while retaining >30% cell viability at 5µg/mL were assessed for synergism with established LRAs. Compounds that blocked >50% GFP expression induced by 50ng/mL TNFα were assessed for antagonism of LRAs and ability to block a doxycycline-induced, Tat/TAR-deficient provirus. Select compounds were also tested in infected, primary resting CD4 T-cells using the Tat/Rev-Induced Limiting Dilution Assay (TILDA).

Results: We identified 8 new LRAs and 2 DLAs. Two novel phorbol esters induced GFP in 6.0 ± 0.6 and 6.9 ± 0.4% of cells at 0.03µg/mL, respectively, having ~10-fold less activity than PMA but ~100-fold greater than prostratin. Interestingly, these compounds originate from a plant used by African traditional healers to treat AIDS symptoms. Arthrost *p<2* reacted 9.9 ± 0.3% of cells at 5µg/mL and synergized with panobinostat (HDAC inhibitor). prostratin (PKC activator), and TNFα, suggesting a distinct mechanism of action. p61-containing plants are traditionally used to treat malaria, and p61 does not synergize with the anti-malarial artemisinin, suggesting related modes of targeting latent HIV. Two novel flavonoids at 5µg/mL suppressed >85% of GFP induction by TNFα, control LRAs, and production of Tat/TAR-deficient provirus, suggesting mechanism(s) distinct from previously-reported DLAs. Finally, both phorbol esters induced multiply-spliced vRNA expression in resting CD4 T-cells, while one flavonoid suppressed >80% of PMA/ionomycin-induced vRNA.

Conclusions: We identified potential new LRAs and DLAs of natural origin, including some supported by traditional medicine, that display synergy with established LRAs and/or distinct mechanisms of action.

WEPEA024

SMALL MOLECULE INHIBITORS OF BAF: A NEW FAMILY OF COMPOUNDS IN HIV-1 LATENCY REVERSAL

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Background: New pharmaceutical strategies aimed at HIV-1 eradication have focused on molecules able to induce HIV replication from latently infected cells in order to render them susceptible to immune clearance. We investigated the activity of a new class of latency reversal compounds targeting BAF chromatin remodeling complex, a key player required for establishment and maintenance of HIV-1 latency and thus a promising molecular target for HIV-1 latency reversal.

Methods: Activation of latent HIV-1 following treatment with BAF inhibitors (BAFi’s) was characterized at the molecular level by Western Blot, chromatin immunoprecipitation and FAIRE assays. Furthermore, cells were treated with BAFi’s in combination and not yet assessed in vivo. Thus additional LRAs and DLAs are needed.

Methods: We examined 433 pure compounds from marine natural products and medicinal plants using I-Lat.8.4 GFP-reporter T cells containing an NL4.3pmRf/gene. Compounds that induced GFP in >5% of cells while retaining >30% cell viability at 5µg/mL were assessed for synergism with established LRAs. Compounds that blocked >50% GFP expression induced by 50ng/mL TNFα were assessed for antagonism of LRAs and ability to block a doxycycline-induced, Tat/TAR-deficient provirus. Select compounds were also tested in infected, primary resting CD4 T-cells using the Tat/Rev-Induced Limiting Dilution Assay (TILDA).

Results: We identified 8 new LRAs and 2 DLAs. Two novel phorbol esters induced GFP in 6.0 ± 0.6 and 6.9 ± 0.4% of cells at 0.03µg/mL, respectively, having ~10-fold less activity than PMA but ~100-fold greater than prostratin. Interestingly, these compounds originate from a plant used by African traditional healers to treat AIDS symptoms. Arthrost *p<2* reacted 9.9 ± 0.3% of cells at 5µg/mL and synergized with panobinostat (HDAC inhibitor), prostratin (PKC activator), and TNFα, suggesting a distinct mechanism of action. p61-containing plants are traditionally used to treat malaria, and p61 does not synergize with the anti-malarial artemisinin, suggesting related modes of targeting latent HIV. Two novel flavonoids at 5µg/mL suppressed >85% of GFP induction by TNFα, control LRAs, and production of Tat/TAR-deficient provirus, suggesting mechanism(s) distinct from previously-reported DLAs. Finally, both phorbol esters induced multiply-spliced vRNA expression in resting CD4 T-cells, while one flavonoid suppressed >80% of PMA/ionomycin-induced vRNA.

Conclusions: We identified potential new LRAs and DLAs of natural origin, including some supported by traditional medicine, that display synergy with established LRAs and/or distinct mechanisms of action.

WEPEA025

HETERODIMERIC IL-15 INDUCES EFFCTOR CELL ACTIVATION AND TRAFFICKING TO THE GERMINAL CENTERS OF SIV INFECTED MACAQUES

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Background: IL-15 stimulates the growth and activation of NK cells and cytotoxic lymphocytes. We have produced heterodimeric IL-15 (hIL-15), the authentic form of IL-15 found in the circulation, and demonstrated that administration of hIL-15 in macaques shows improved pharmacokinetics and pharmacodynamics compared to previous preparations of IL-15 without significant side effects. We have previ-
ously reported that therapeutic DNA vaccination together with pDNA encoding hetIL-15 in ART-treated macaques induces T cells responses able to control viremia after ART release. 

**Methods:** Heterodimeric IL-15 (hetIL-15) was purified and tested in macaques upon subcutaneous (SC) administration. Phenotype and functional changes in lymphocyte subsets were monitored by flow cytometry and multiplexed confocal imaging (MCI). This expanded T lymphocyte population was distributed in the tissues and was also present in secondary lymphoid organs. An increased frequency of Ag-specific effector and total effector T cells could be observed by both flow cytometry and MCI. A subset of CDS T cells present in lymph nodes expresses CXCR3, indicating ability to migrate into germinal centers where chronically infected CD4+ T cells reside. MCI confirmed the presence of effector CD8 in germinal centers and showed that these cells are cytotoxic (Granzyme B) and actively proliferating (Ki67) in response to hetIL-15.

**Conclusions:** We are exploring the potential of hetIL-15 as a viral reservoir reducing agent in ART-treated SIV infected macaques therapeutically vaccinated with DNA. Effective levels of hetIL-15 can be delivered without side effects. hetIL-15 treatment in combination with DNA vaccination enhances access to virus sanctuary areas (germinal centers) and is a promising HIV eradication strategy.

**NOVEL ASSAYS OF HIV INFECTION**

**WEPEA027**
**MULTISITE EVALUATION OF THE BD FACSPRESTO™ CD4 COUNTER**


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**Background:** The BD FACSPresto™ CD4 Counter is designed for resource-limited settings to improve HIV/AIDS patient care. The portable system features include on-board quality control and single-use disposables cartridges. It reports absolute CD4, %CD4, and Hb from capillary or venous samples, and ease of use for monitoring of CD4 and Hb. The BD FACSPresto provides accurate clinical results for CD4, %CD4, and Hb < 2.83. Results in venous and capillary samples were analyzed independently. CD4 (N=716) Deming regression gave slopes within 1.00-1.05 with R2 ≥0.96 for %CD4 (N=716), and within 0.99-1.06 with R2 ≥0.89 for Hb (N=85). The overall agreement at 200 CD4 cells/µL clinical cutoff in venous blood (N=85) was ≥98.5%, and ≥97.7% in capillary blood (n=67). Multisite reproducibility testing was conducted using capillary and venous samples from HIV-infected patients and uninfected individuals with and without concomitant medical conditions. For comparison, venous samples were tested using the BD FACSCalibur™ system with BD Titest™ CD3/4/45 reagent, BD Trucount™ tubes, and BD Multiset™ software for CD4 and Hb, and the Sysmex® KX-21N for Hb concentration. Controls were used for multisite reproducibility testing.

**Results:** Enrollment included venous (N=795) and capillary (N=691) specimens (1:27 male/ female ratio), including 57 from subjects 2-11 years old, 68 between 12-21, and 592 subjects 22 years and older. The data was pooled for analysis. Venous and capillary samples were analyzed independently. CD4 (N=716) Deming regression results in venous and capillary samples are shown. Deming regression gave slopes within 1.00-1.05 with R² ≥0.96 for %CD4 (N=716), and within 0.99-1.06 with R² ≥0.89 for Hb (N=720). The overall agreement at 200 CD4 cells/µL clinical cutoff in venous blood (N=85) was ≥98.5%, and ≥97.7% in capillary blood (n=67). Multisite reproducibility had total precision (%CV/NSD) for CD4 ≤ 5.32, %CD4 ≤ 0.59, and Hb ≤ 2.83.

**Conclusions:** The BD FACSPresto provides accurate clinical results for CD4, %CD4, and Hb from capillary or venous samples, and ease of use for monitoring of CD4 and enabling treatment access. This product was CE Marked (IVD Directive 98/79/EC) and WHO prequalified (2014), and received FDA clearance (2015).

**WEPEA028**
**PILOT ASSESSMENT OF THE DIAGNOSTIC ACCURACY OF CEPHIED GENEXPERT HIV-1 QUAL FOR EARLY INFANT DIAGNOSIS**


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**Background:** Implementation of early infant diagnosis (EID) of HIV infection requires availability of diagnostic tests that are affordable, simple to use and improve diagnostic and treatment outcomes by enabling earlier initiation of infected infants on antiretroviral therapy (ART). The xPert HIV-1 Qual assay (Cepheid, CA, USA) is a novel platform licensed for diagnosis of HIV among children. There are limited reports on its accuracy in the field settings. MSF-Belgium and Malawi Ministry of Health collaborate on implementation of EID in Nsanje district, southern Malawi. In preparation for a larger feasibility study on xPert HIV-1 Qual implementation, we implemented a pilot assessment of accuracy of xPert HIV-1 Qual for diagnosis of HIV infection among infants and children.

**Methods:** Pilot study included samples from HIV-exposed infants and children aged 6 weeks to 18 months having HIV-PCR testing for diagnosis or confirmation of HIV infection. Samples were diagnostic samples from Nsanje district that were tested using the Abbott RealTime HIV-1 Qualitative at Queen Elizabeth Hospital Laboratory located in Blantyre, Malawi. Samples were selected retrospectively, and included consecutive tests performed between 4 December 2015 and 6 January 2016, and were limited to availability of the xPert test cartridges (n=400). Laboratory tests were performed as per manufacturer’s instructions. Testing was done on heel-prick dried blood spots. Samples that were taken more than 2 months before the start of the study, and those not meeting quality criteria were excluded.

**RESULTS:** Version 10 was used to estimate sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of xPert HIV-1 Qual.

**Results:** 378 samples were selected. 17/378 (4.5%) were HIV positive. xPert HIV-1 Qual detected 16 out 17 HIV positive, and 358 out 361 HIV negative cases. The sensitivity of xPert HIV-1 Qual was 94.1% (95% CI: 71.3-99.9%); and specificity 99.2% (92% CI: 97.6-99.8), whereas PPV was 84.2% (63.2-94.3%)[and NPV was 99.7% (98.2-100%)

**Conclusions:** Pilot assessment demonstrates high accuracy of xPert HIV-1 Qual in diagnosing HIV among children less than 18 months. Further research is warranted to evaluate feasibility and effectiveness of decentralized xPert HIV-1 Qual implementation at district level.
Sex-based differences in HIV

WEPEBO29
GENDER-BASED DIFFERENCES IN ART OUTCOMES

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Background: Studies examining gender differences in antiretroviral therapy (ART) outcomes have produced varying results. We investigated gender differences in HIV clinical outcomes over a decade among urban and rural men and women in a HIV treatment program in KwaZulu-Natal, South Africa.

Methods: Patient characteristics and clinical/therapeutic outcomes, including mortality, were analysed prospectively among 4043 patients (64% women) in the PEPFAR-funded CAPRISA AIDS Treatment Programme (CAT) from October 2004 to August 2013. The log-rank test was used to assess differences between men and women.

Results: At baseline, women had higher median CD4+ count (131 vs 113 cells/mm³; p<0.001), higher median body mass index (BMI) (24.2 vs. 21.0 kg/m²; p<0.001) and lower mean log viral loads (4.9 vs 5.0 copies/ml; p<0.001). In contrast, men presented more often in advanced WHO Stage 4 disease (14.3 % vs 9.7 %; p< 0.001) and with a history of past TB (34.4 % vs 26.3 %; p<0.001).

During follow-up on ART, women demonstrated a better immunological response than men as they had consistently higher mean CD4+ counts at each clinical assessment (p<0.042). Viral suppression on ART, retention rates, TB incidence and ART regimen change rates did not differ by gender.

Overall all-cause mortality was 31% higher in men after adjustment for multiple co-variables including baseline CD4+ counts. The crude mortality rates were 6.9 per 100 person-years (95% confidence interval (CI): 5.9-8.0) in men and 4.4 per 100 person-years (CI: 3.8-5.0) (Crude HR: 1.57; Adjusted hazard ratio: 1.31; CI: 1.07-1.61; p<0.01).

Conclusions: Women presented for care with higher CD4+ counts and lower viral loads, had consistently higher CD4+ counts throughout ART follow-up. Treatment response was similar in men and women. Men had more advanced disease at baseline; at comparable CD4+ counts and suppressed viral loads and a 31% higher chance of dying while on ART. These gender differences in disease stage at presentation and mortality outcomes are concerning. Effort needs to be directed toward encouraging men to test early and frequently, with effective linkage to care for early ART initiation and vigilance for opportunistic diseases with the aim of reducing mortality and associated costs.

Diagnosis of co-infections (including syphilis, TB, cryptococcosis, hepatitis B, C and other)

WEPEBO30
SCREENING HIV-INFECTED PATIENTS WITH LOW CD4 COUNTS FOR CRYPTOCOCCAL ANTIGENEMIA PRIOR TO INITIATION OF ANTIRETROVIRAL THERAPY: COST-EFFECTIVENESS OF ALTERNATIVE SCREENING STRATEGIES IN SOUTH AFRICA


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Background: The South African government established a national cryptococcal antigenemia (CrAg) screening policy targeted at HIV-infected patients with CD4 counts <100 cells/µl not yet on antiretroviral treatment (ART). Two screening strategies are currently utilised: a reflex policy (RP) in which a CrAg test is performed using remnant blood samples from CD4 testing; and a provider-initiated policy (PIP) in which providers order a test after a patient returns for CD4 results. This analysis compares the costs and effectiveness of these two screening strategies.

Methods: We developed a decision-analytic model for the two policies in terms of screening and treatment costs (2015 USD) and health outcomes (years of life saved). We evaluated a base case using CrAg prevalence (4.6%) with other parameters based in part on data collected during screening projects in Gauteng, Free State, and Western Cape provinces. Unit costs for screening and treatment were based on National Health Laboratory Service estimates and published government data.

Results: Table 1 presents key unit costs for the analysis. Table 2 presents key results. In sum, per 100,000 CD4 tests, RP compared to PIP has higher screening costs but lower treatment costs and saves more life years. The incremental cost per incremental life year saved for RP compared to PIP is $3.49. Further results from sensitivity analyses lead to similar conclusions.

Diagnosis of co-infections (including syphilis, TB, cryptococcosis, hepatitis B, C and other).

WEPEBO31
SOUND COLLABORATION BETWEEN HEALTH CENTRES AS STEPS TOWARD DECENTRALIZING ARV DISPENSATION: IMPACT FOR EASIER ACCESS TO ARVs FOR MSM IN CAMEROON. THE CASE OF ACCESS CENTER, DOUALA

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Background: Since its creation in 2008, the Access Centre cares for MSM living with HIV. However those MSM depend on an Authorized Treatment Centres (CTA) for ARVs. In Cameroon, in fact, ARVs are only available in such Centers. Therefore Access Center’s beneficiaries had to go first to Access Center for the prescription and then to the CTA for the drugs. This double movement was causing several treatment in-
OPPORTUNISTIC INFECTIONS (EXCLUDING TB)

WEPE032 EVALUATION OF REFLEX LABORATORY CRYPTOCOCCAL DISEASE SCREENING, SOUTH AFRICA, 2012-2015

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Background: Screening for cryptococcal antigenemia is recommended to reduce mortality related to HIV-associated cryptococcal meningitis (CM). We evaluated a reflex laboratory-based cryptococcal antigen (CrAg) screening program that was implemented at 199 healthcare facilities in Gauteng and Free State provinces during November 2012 - August 2015.

Methods: Remnant plasma from any routinely-collected EDTA-blood sample for a CD4 count test, where the result was < 100 cells/µl was tested with a CrAg lateral flow assay. Healthcare workers managed CrAg-positive patients using a standardized algorithm, including symptom screening and lumbar puncture (LP). At 114 enhanced surveillance (ES) sites, study nurses abstracted information on CrAg-positive patients from medical records. Screening data were merged with data from an established national CM surveillance program to determine patients with prior CM.

Results: Over 3 years, 50,324 of 50,327 specimens with a CD4 count < 100 cells/µl were tested for CrAg, including 3,658 specimens (15%) tested in duplicate. Of 42,666 unique patients, 667 (2%) had prior CM. Of the remaining 41,999, 1,271 patients (3%) had new antigenemia. The number needed to screen to detect a case of new antigenemia was 33. Of 688 patients with new antigenemia at ES sites, 138 (20%) had no recorded follow-up visit. Of the remaining 550, symptom data were available for 539. Of these, 316 (59%) had headache and/or confusion: 223 (41%) were asymptomatic. LP was performed and results were available for 135 (25%) patients. Of these, CM was confirmed among 74% (68/92) and 26% (11/43) of symptomatic and asymptomatic patients respectively; 87% (69/79) received an amphotericin B-based regimen. Fluconazole was initiated among 88% (312/358) of all those with new antigenemia, where data were available (median time to fluco- nazole: 14 days [IQR, 5-27]).

Conclusions: In this reflex laboratory-based screening program, nearly all eligible patients were tested for CrAg. Redundant testing of the same patient was minimal. Screening enabled diagnosis of CM and detection of asymptomatic antigenemia. Of those with available data, the vast majority with CM received amphotericin B-based treatment, and asymptomatic patients received pre-emptive fluconazole. Improved linkage to care is needed to reduce the proportion of patients who did not return for CrAg results.

WEPE033 OPPORTUNISTIC INFECTIONS AMONG HIV-PEOPLE WITH CD4 COUNTS > 500/MM³: A EUROSIDA STUDY

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Background: For reasons unknown, some HIV+ persons develop opportunistic infections (OIs) at high CD4 counts. We investigated determinants of OIs among persons with CD4 > 500/mm³ in a large international HIV cohort.

Methods: EuroSIDA participants were followed from the latest of 1/1/2001 or recruitment to last visit or death. Patient follow-up and events were censored when CD4 count was < 500/mm³. Poisson regression determined factors associated with OIs. Three treatment categories were defined using the time-updated cART and CD4 at each visit: (a) VL: < 500 mm³, (b) VL: < 200 mm³ and (c) VL: < 40 mm³ or VL: < 40 mm³ and below 200 mm³. CM was defined as confirmed CM (≥ 120 cells/µl) and fatal CM in 2004. Other OIs were classified as a) non-fatal OIs and b) fatal OIs. Multivariate regression was performed.

Results: Over 3 years, 50,324 of 50,327 specimens with a CD4 count < 100 cells/µl were tested for CrAg, including 7,658 specimens (15%) tested in duplicate. Of 135 (20%) had no recorded follow-up visit. Of the remaining 550, symptom data were available for 539. Of these, 316 (59%) had headache and/or confusion: 223 (41%) were asymptomatic. LP was performed and results were available for 135 (25%) patients. Of these, CM was confirmed among 74% (68/92) and 26% (11/43) of symptomatic and asymptomatic patients respectively; 87% (69/79) received an amphotericin B-based regimen. Fluconazole was initiated among 88% (312/358) of all those with new antigenemia, where data were available (median time to fluconazole: 14 days [IQR, 5-27]).

Conclusions: In this reflex laboratory-based screening program, nearly all eligible patients were tested for CrAg. Redundant testing of the same patient was minimal. Screening enabled diagnosis of CM and detection of asymptomatic antigenemia. Of those with available data, the vast majority with CM received amphotericin B-based treatment, and asymptomatic patients received pre-emptive fluconazole. Improved linkage to care is needed to reduce the proportion of patients who did not return for CrAg results.

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WEPEB034
PATHWAYS TO CARE AND OUTCOMES OF PATIENTS WITH CRYPTOCOCCOSIS, GAUENTZ PROVINCE, SOUTH AFRICA, 2015

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Background: We aimed to evaluate pathways to care prior to hospital admission and outcomes among patients with HIV-associated cryptococcosis in routine care in Johannesburg, South Africa.

Methods: Patients were sampled consecutively at five public-sector hospitals and were eligible for enrolment if they were ≥18 years old and admitted for amphotericin B-based treatment of an episode of laboratory-confirmed cryptococcosis (positive cryptococcal antigen or India ink or culture from cerebrospinal fluid, blood or other specimen). Demographic, health-seeking behavior and clinical data were collected using structured questionnaires. Patients were followed up for 12 weeks post-admission.

Results: From May through October 2015, 184 patients were diagnosed with cryptococcosis; 88 were screened for eligibility and 105 (57%) were enrolled. Of 68 patients with questionnaires, 36 (53%) were male with a median age of 39 years (IQR: 34-45). Among 62 patients with recorded HIV infection status, 59 (95%) were HIV-infected; 43 (73%) were diagnosed HIV-seropositive prior to admission. Of 60% (26/43), who were antiretroviral treatment (ART)-experienced, 24 patients (92%) were on ART at admission; median duration on ART was 215 days (IQR: 50-383). In the 6 weeks preceding admission, headache was the most common symptom (48/58; 83%) followed by neck stiffness (44/57; 77%), fever (28/56; 50%) and confusion (25/58; 43%). Of 52 patients with data, 23 (44%) had first sought help at a public clinic, 11 (21%) at a private doctor, 9 (17%) at a public-hospital casualty, 4 (8%) at a pharmacist and 1 at a traditional healer. For 57 patients with data, the median number of healthcare contacts prior to admission was 2 (IQR: 1-3). Of 66 patients who were followed up during admission, 21 (32%) died in hospital; 23 of 45 survivors had a known 12-week outcome, 8 of whom died.

Conclusions: In this urban hospital study, almost all patients eventually diagnosed with cryptococcosis had had an outpatient healthcare contact prior to admission; a large proportion was already diagnosed HIV-seropositive and ART-experienced. More than a quarter sought private care first. Screening for cryptococcal antigenemia in these settings has potential to reduce the high in-hospital and 12-week mortality associated with meningitis.
screening in individuals with low CD4 counts, and HIV-program strengthening to prevent default from ART are required for prevention of cryptococcal meningitis and other opportunistic infections.

WEPEB037
ANTIRETROVIRAL THERAPY AS PREVENTION... OF INVASIVE PNEUMOCOCCAL INFECTIONS?

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Background: Despite antiretroviral (ARV) therapy, it is generally admitted that HIV patients remain at increased risk of pneumococcal infections (PI) and thus eligible to pneumococcal vaccination (PV). Most studies in this field, however, have been conducted before 2010, while the proportion of virologically controlled patients has dramatically increased these latter years, thanks to larger indications and more effective ARV regimens.

The aim was to reevaluate the current residual risk of PI and the PV coverage among HIV patients in France.

Methods: This retrospective study was conducted in two regional centers that over- all reflect the current French HIV epidemiology. The total 1996-2014 cohort (30,371 patients) allowed to determine the incidence of PI. The 80 most recent cases of PI (2000-2014) were compared to 160 controls (patients without PI matched by date of HIV diagnosis) to analyze the residual risk factors of PI and the determinants of PI.

Results: From 1996-2014, 116 PI cases were observed among which 40 invasive in- fections (bacteremia or meningitis) with only 2 directly attributable deaths. The in- cidence of invasive PI among patients with comorbidities or uncontrolled HIV infec- tion was 12 times higher than that of general French population (107 vs 9.9/100,000), while the incidence among virologically controlled patients without comorbidity was of only 7.6/100,000. The matched analysis showed that risk factors of PI among HIV patients were (a) detectable VL (p=0.003), and (b) other factors shared by the general population such as a BMI< 19 (p=0.005), addiction to alcohol (p=0.0004), tobacco (p=0.003) or IV drugs (p=0.005), renal failure (p=0.01), or respiratory in- sufficiency (p=0.02). The PV coverage was low for controls (91.6/156, 57%) as well as for cases (44/80, 55%), with only 5 cases (6%) having been vaccinated before the first episode of PI. Determinants for PV coverage were regular follow-up (p< 0.001), acceptance of flu vaccine (p< 0.001) and higher count of CD4 T-cells (296, vs 152, p=0.03).

Conclusions: These data suggest that HIV infection is no longer per se a significant risk factor for invasive pneumococcal infections, raising the question to interrupt “systematic” pneumococcal vaccination (not well applied in real life) and prefer a risk factor for invasive pneumococcal infections, raising the question to interrupt the

WEPEB038
TUBERCULOSIS AND OTHER MYCOBACTERIA

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Background: Tuberculosis (TB) is one of the most common causes of morbidity and mortality in people living with HIV (PHLV). TB intensified Case Finding (ICF) is a critical intervention for reducing TB mortality and ongoing TB transmission among PHLV. We conducted an evaluation to characterize the implementation of various steps of the ICF cascade that consists of TB symptom screening, identification of PHLV with presumptive TB, diagnostic evaluation for TB disease, diagnosis of TB disease, initiation of TB treatment and monitoring of each step of the cascade.

Methods: A probability-proportional-to-size sampling technique was used in the selection of 2,833 PHLV ≥15yrs of age, not diagnosed with TB and retained in care as at end of September 2012 from 15 PEPFAR-supported HIV care and treatment facilities in Benue State, Nigeria. Patient charts and registers were retrospectively reviewed and data was abstracted on TB ICF cascade steps.

Results: Among the patients seen at the selected facilities during the study period, 2604 (91.9%), [95% CI: 86.5-98.5] were screened for TB at their last clinic visit. Of these, 60 (2.3%), [95% CI: 1.5-3.1] had a positive symptom screening and were classi- fied as presumptive TB. 2540 (97.5%), [95% CI: 96.9-98.5] had a negative TB symp- tom screen, and the outcome of TB screening was not documented for 4 (0.15%) patients. Of the 60 presumptive TB cases, 26 (43.3%), [95% CI: 20.4-63.7] were evaluated for TB, 24 (40.0%), [95% CI: 16.4-74.9] were not evaluated, and data on 10 (16.7%) patients were missing. Among patients evaluated for TB, 20 (76.9%), [95% CI: 58.6-100] were diagnosed with TB, 15 (75.0%), [95% CI: 72.4-100] were initiated on TB treatment, 2 (10.0%), [95% CI: 0.0-27.6] were not, and data on 3 (15.0%) were missing.

Conclusions: Although TB screening was consistently conducted, the evaluation highlighted significant drop-offs in the ICF cascade in the evaluation of PHLVs with presumptive TB and initiation of treatment for TB disease. Interventions that would strengthen referral, linkage and tracking of PHLVs with presumptive TB should be implemented to ensure that greater number of PHLVs with presumptive TB are evaluated for TB disease and all diagnosed cases initiated on treatment.

TUBERCULOSIS AND OTHER MYCOBACTERIA

WEPEB039
PLASMA INDOLEAMINE 2. 3 DIOXYGENASE ACTIVITY, A POTENTIAL BIOMARKER FOR TUBERCULOSIS

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Background: Indoleamine 2, 3 dioxygenase (IDO) is an immuno- regulatory enzyme capable of modulating cell mediated immunity (CMI). IDO catalyzes the breakdown of tryptophan (Tryp) to its toxic metabolites collectively known as kynurenines (Kyn). Elevated IDO activity has been proposed as a prognostic biomarker for TB in HIV infected patients. Indoleamine 2, 3 dioxygenase (IDO) is an immuno-regulatory enzyme capable of modulating cell mediated immunity (CMI). IDO catalyzes the breakdown of tryptophan (Tryp) to its toxic metabolites collectively known as kynurenines (Kyn). Elevated IDO activity has been proposed as a prognostic biomarker for TB in HIV infected patients and compared with 70 control subjects, age, sex and CD4 cell count matched, in the same HIV infected cohort who did not develop TB.

Methods: Kyn and Trp concentrations were measured simultaneously in plasma of 22 HIV infected patients who developed active TB during a longitudinal study and compared with 70 control subjects, age, sex and CD4 cell count matched, in the same HIV infected cohort who did not develop TB.

Results: IDO activity was significantly higher in TB patients than controls at the time of TB diagnosis (P = 0.0001). At 6 months prior to TB diagnosis, IDO activity was significantly higher in those who developed TB than controls (P = 0.0001). Within 6 months of anti-TB treatment, IDO activity in TB patients declined to almost same levels as that of the controls. To evaluate diagnostic significance of IDO activity using a receiver operat- ing characteristic (ROC) curve, we selected 0.70 as the optimal cut-off. At time of TB diagnosis using both laboratory confirmed and clinical TB as gold standard, IDO activity gave a diagnostic sensitivity of 100% and a specificity of 98.5% with Positive and Negative predictive values of 96.9% and 100% for detecting active TB cases.

Conclusions: Our results, demonstrate the plausibility of increased IDO activity as a biomarker of active TB in HIV positive patients. Further, IDO activity may be a useful biomarker for predicting progress to active TB disease within 6 months or monitor- ing response to TB treatment. Strengths of the study include inclusion of an HIV infected control group and a longitudinal study design.
WEPEB040
PREVALENCE OF TUBERCULOSIS AND HIV/AIDS CO-INFECTION AMONG HIV CLIENTS AT GLOBAL FUND SUPPORTED COMPREHENSIVE FACILITIES IN NIGERIA

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Background: Tuberculosis (TB) and HIV constitute major public health problems in Nigeria. The country has one of the largest burdens of both HIV and TB in the world. The prevalence of HIV among TB patients in Nigeria has been established to be 22% but the prevalence of TB among HIV clients in Nigeria has not been determined. This study was designed to determine the prevalence of TB among HIV clients in Nigeria.

Methods: Secondary analysis of data collected from the HIV/TB program in 241 Global Fund (GF) supported comprehensive facilities in Nigeria was done. From January 2013 to June 2015, 57,516 HIV clients were enrolled into care/treatment at the GF supported sites. Clients were screened symptomatically during clinic visit. Any clients that answered “yes” to at least one TB symptomatic questions was referred to the laboratory for TB test either by microscopy or genoType. The TB co-infection among the HIV clients was the ratio of HIV clients with reactive tests to clients enrolled into treatment/care.

Results: In 2013, 1,622 out of the 19,527 HIV clients were diagnosed with TB and co-infection rate was 8.3%. In 2014, 1,595 out of the 23,906 HIV clients were diagnosed with TB and the co-infection rate was 6.67%. In 2015, 1,075 out of 14,083 clients were diagnosed with TB and the co-infection rate was 7.6%. The overall co-infection rate 7.5% while the TB co-infection among HIV clients by the 6 geopolitical zones was North-West (5.1%), South-East (5.2%), North-East (5.9%), North-Central (6.8%), South-West (8.3%) and South-South (10.3).

Conclusions: The overall co-infection rate of TB among HIV clients was 7.5%. Screening of TB among HIV clients is of public health priority toward mitigating the spread of TB. There is need to improve TB infection control at HIV setting to reduce TB co-infection.

WEPEB041
THE CHILDHOOD TUBERCULOSIS CARE CASCADE IN HIV-INFECTED AND UNINFECTED CHILDREN LIVING IN RURAL UGANDA AND KENYA

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Background: One of the first steps in achieving the World Health Organization’s goal of Zero Childhood TB Deaths is to “know one’s epidemic”. Data on childhood TB in rural communities with generalized HIV epidemics are sparse. We sought to describe the incidence, case characteristics, and gaps in the childhood TB care cascade in rural Uganda and Kenya.

Methods: We retrospectively collected TB diagnostic data and demographic data on children (age ≤15 years) and adults from the 2013 and 2014 TB treatment registries in 32 rural communities in Uganda and Kenya (N=334,512), that were participating in the SEARCH study (NCT:01864603). The SEARCH census data were used to calculate childhood TB incidence.

Results: In our study population the incidence of reported cases of childhood TB in Kenya was 20.9 and 10.5 per 100,000 in 2013 and 2014 respectively. In Uganda the incidence was 4.8 per 100,000 in 2013. 0 cases were reported in Uganda in 2014. From 2013 to 2014, children accounted for 13% (18/136) of all TB diagnoses in Kenya and 4% (5/121) of all TB diagnoses in Uganda. The proportion of overall TB burden found in children in Uganda is below the estimated proportion of 14-20% (World Health Organization 2014). Childhood TB case characteristics in Uganda and Kenya were notable for 52% HIV infected, 43% under the age of five, 30% smear positive, and 47% with extra pulmonary TB. In Kenya, of the 18 reported childhood TB cases, 100% (14/18) were started on TB treatment, and 39% (7/18) had documentation of treatment completion. Age, gender, HIV status, and TB type did not predict odds of treatment completion. In Uganda, of the 5 reported childhood TB cases, 100% (5/5) were started on TB treatment, 80% (4/5) had documentation of treatment completion.

Conclusions: Over half of reported childhood TB cases are HIV infected. TB diagnosis in Uganda, treatment completion in Kenya, and reporting in both are weak links in the childhood TB care cascade in HIV infected and uninfected children. Analysis of programmatic TB surveillance data can identify local gaps in the TB care cascade and aid in targeting local interventions.
WEPEB043
RAPID DIAGNOSIS, LINKAGE AND TREATMENT INITIATION OF PATIENTS WITH RIFAMPICIN-RESISTANT TUBERCULOSIS IN SOUTH AFRICA: THE MILINC SOLUTION TO IMPROVE ACCESS TO CARE

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Background: Tuberculosis (TB) remains the leading cause of death in South Africa. Rapid diagnostic testing for TB with identification of rifampicin resistance is now standard of care. Despite this, linkage to care and subsequent treatment initiation lags and late presentation to care is noted as a prevailing reason for poor programmatic outcomes. We investigate a health system strengthening solution combining rapid diagnostic laboratory interfaced m-Health smartphone application and linkage officer to shorten time from diagnosis to treatment initiation for drug resistant TB patients, 70% of which are co-infected with HIV.

Methods: We conducted a prospective observational cohort of persons presenting to primary health care clinics with symptoms of TB in peri-urban KwaZulu Natal, between June and November, 2015. Enrollment occurred by clinic staff into the mobile interface linkage to care (miLINC) application. A specimen bar code was placed on the sputum specimen bottle and was scanned directly into miLINC, creating an immediate direct patient-specimen match. The sputum specimen followed standard lab submission process and the results are transmitted from National Health Laboratory Service (NHLS) to miLINC. TB results are available immediately in miLINC for the clinic nurse, while linkage officers are simultaneously notified of rifampicin resistant patients for tracing and linkage.

Results: Three clinics enrolled 4,939 patients, 52.2% female. 3,887 (78.5%) had NHLS confirmed TB results; among the 1065 patients without results, the majority (56.5%) resulted from lab rejection. Among confirmed results, miLINC matched 2880 (74.1%); among unmatched, 86.6% was due to missing barcode data. All rejected specimens resulted in an immediate notification for repeat test. TB was identified in 292/2880 (9.9%) and rifampicin resistant TB in 38/292 (13%). 33/38 rejected specimens resulted in an immediate notification for repeat test. TB was identified in 292/2880 (9.9%) and rifampicin resistant TB in 38/292 (13%). 33/38 rejected specimens resulted in an immediate notification for repeat test.

Conclusion: The combined impact of rapid diagnosis coupled with miLINC resulted in linkage and initiation of drug-resistant TB treatment in < 3 days from diagnosis. m-Health is a feasible solution for linkage to care, even in resource challenged environments.

WEPEB046
LINEZOLID FOR THE TREATMENT OF RIFAMPICIN-RESISTANT TB IN KAYHELITSHA, SOUTH AFRICA. STRATEGIES FOR IMPROVING ACCESS

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Background: Rifampicin-resistant TB (RR-TB) is a major source of mortality for HIV infected individuals South Africa, and treatment is successful in only half of those diagnosed and initiated on treatment. The use of new drugs—bedaquiline and delamanid—and repurposed drugs—linezolid (LZD) and clofazimine—have potential to improve outcomes. The cost of these medications, particularly LZD, has led to restricted use even in patients who might benefit. We have previously described improved outcomes for patients treated with LZD in Kayelitsha. Here we focus on strategies for reducing drug costs to improve access.

Description: A retrospective record review of patients receiving LZD through a programme supported by Médecins Sans Frontières (MSF) combined with a descriptive analysis of drug costs over time was conducted.

Lessons learned: In total 128 patients in Kayelitsha were treated between 2011-2015. Between 2011 and early 2014, the average cost of LZD for MSF was nearly 65 USD (700 ZAR) per tablet, which translated into about 49,000 USD ($20,000 ZAR) per two-year treatment course. In June 2014, MSF obtained permission from South Africa’s Medicines Control Council to import a quality-assured generic at an 88% price reduction (8 USD, or ~85 ZAR) for use in Khayelitsha, under “Section 21” conditions. As a result of price reductions MSF procured LZD for 85 (66%) patients after June 2014 compared to 43 (34%) before June 2014. Nationally, LZD is not purchased on tender for TB in the public sector and costs remain high. Work is underway to support registration of generic forms of LZD in South Africa.

Conclusion/Next steps: Linezolid is important for improving outcomes among persons with RR-TB, however cost has hindered wider use. MSF employed a variety of strategies to eventually secure access to a more affordable, generic version of LZD in Khayelitsha. Wider use of Section 21 import waivers to obtain more affordable LZD, and fast-tracked registration of more quality assured suppliers in South Africa, could result in wider access nationwide and ensure that all patients with a clinical indication for LZD have access to this medication.
WEPEB047
INCIDENCE AND RISK FACTORS OF POST ART TUBERCULOSIS IN ADULTS AND ADOLESCENTS ENROLLED IN INDIA’S NATIONAL AIDS CONTROL PROGRAMME, 2009-2014
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Background: Human Immunodeficiency Virus (HIV) and Tuberculosis (TB) co-infection is a major public health problem in India. Antitubercular Treatment (ART) improves survival and quality of life of People Living with HIV (PLHIV). Reactivation or reinfection of TB after ART is not uncommon in PLHIV. Incidence of Post-ART TB is not clearly known. This study objective was to estimate incidence of post ART TB and to identify risk factors for its development.

Methods: Retrospective Cohort study was undertaken using data from four ART centers of Gujarat state; of PLHIV aged ≥ 15 years and initiated on ART between January 1st and 31st December 2011. Occurrence of TB after initiation of ART was primary end point considered until 31st December 2014. We calculated cumulative probability of no post ART TB by Kaplan-Meier estimation and identified risk factors of post ART TB by adjusted odds ratio (AORs) using multiple logistic regression model.

Results: Of 1727 patients initiated on ART & followed up for median 40 months period (range: 0-49 months) follow-up period, 112 patients (6.5%) developed post ART TB. Total follow-up period was 4707 person years. Incidence rate of post ART TB was 3.4 per 100 person years. Mean time to ‘No Post HAART TB’ was 45.96 months (95% CI 39.98-52.94) vs. 13.5%, p=0.006); 10.4% were concordant positive and 49.0% concordant negative. Excluding 14 QFT indeterminate results, QFT/TST agreement was 56.9% (κ=0.13, 95%CI: -0.02-0.22). Among TB women retested at 6 weeks postpartum, more women were QFT+ than TST+ (29.5% vs. 14.1%, p<0.0001). Agreement was 80.3% (κ= 0.44 95% CI: 0.23-0.66), with 11.5% concordant positive and 68.0% concordant negative. Among women QFT+ at both time points, most converted from TST- to TST+ (10/18). Most indeterminate QFT results in pregnancy became QFT+ postpartum (10/12). Three women without LTBI (QFT/TST-) in pregnancy had postpartum test conversion (1 QFT+/TST+, 2 QFT+/TST-) for an incidence of 13.4/100-person years.

LTBI in pregnancy was associated with older age (OR 1.1/year, 95% CI: 1.1-1.16, p=0.03) and pre-pregnancy ART (OR 4.6, 95% CI 1.9-11.2, p=0.001). Later gestational age was associated with lower likelihood of TST+ (OR 0.9/gestational week, 95% CI 0.8-0.9, p= 0.03). Postpartum LTBI was associated with household TB (OR 3.6, 95% CI: 1.1-11.3, p=0.05). Among women with serial positive QFTs, mean IFN-γ was higher postpartum (3.46 vs. 4.85 IU/mL, p<0.007).

Conclusions: QFT was more sensitive than TST for LTBI detection among HIV-infected peripartum women. Reliance on TST would miss >50% of women who could benefit from isoniazid preventive therapy.

WEPEB049
NEW WHO ALGORITHM TO PREVENT TB MORTALITY IN SERIOUSLY ILL PATIENTS WITH HIV
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Background: Tuberculosis (TB) remains the most common cause of in-hospital death in people living with HIV (PLHIV), accounting for one third of all mortality. WHO updated the algorithm to prevent TB mortality among PLHIV who are seriously ill.

Methods: A systematic review was conducted to assess the role of presumptive TB treatment for PLHIV using eight electronic databases up to March 1, 2015. Randomized controlled trials (RCTs), single-arm trials and observational studies were considered. A systematic review of literature assessing the performance of lateral flow urine lipoarabinomannan assay (LF-LAM) was conducted using 11 electronic databases up to 2 February 2015. The quality of evidence was assessed using the GRADE system. The results were reviewed by a Guideline Development Group (GDG) consisting of international external experts.

Results: A systematic review of presumptive TB treatment identified 2563 citations and four ongoing trials. Although one RCT (REMEMBER) was identified, the study did not meet the operational definition of presumptive TB treatment. Randomized controlled trials (RCTs), single-arm trials and observational studies were considered. A systematic review of literature assessing the performance of lateral flow urine lipoarabinomannan assay (LF-LAM) was conducted using 11 electronic databases up to 2 February 2015. The quality of evidence was assessed using the GRADE system. The results were reviewed by a Guideline Development Group (GDG) consisting of international external experts.

Conclusions: The new WHO algorithm suggests provision of presumptive TB treatment for PLHIV who are seriously ill and presumed to have TB. Adoption of the new WHO algorithm is likely to minimize delay in TB treatment initiation and prevent early mortality among seriously ill PLHIV.
Conclusions/Next steps: LAM test is easy to implement in programmatic conditions using a simple to obtain sample and providing quick results. In a context where there are difficulties to perform other diagnostic tests LAM may detect a non-negligible proportion of TB patients among very sick HIV-positive patients that otherwise would be missed.

WEPEB051
EVALUATING THE INCREMENTAL VALUE OF USING THE TB-LAM TEST IN INTENSIFIED CASE FINDING FOR TB IN PEOPLE LIVING WITH HIV
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Background: The Swaziland National AIDS Programme and National Tuberculosis Control Programme have a joint goal of improving tuberculosis (TB) case detection in People Living with HIV (PLWHIV). Urine TB lipoarabinomannan (LAM) test, which detects the LAM antigen, has potential of rapidly detecting TB and/or add value to the TB screening process. This Point-of-Care test has a potential of scaling up intensified case finding (ICF) including extra-pulmonary TB cases in PLWHIV. To inform this we conducted a study on the feasibility and value of adding urine TB LAM test to the national screening algorithm.

Methods: PLWHIV, aged ≥18, and not on TB treatment were consecutively recruited at three hospital-based ART clinics. All patients with presumed TB regardless of ART status were included. Sputum, urine and blood samples were collected for Xpert MTB/RIF and culture, determine LAM, and CD4 count respectively. Sputum induction was done for those unable to produce sputum. Sensitivity and specificity analyses were conducted using Stata 12.1. Logistic regression was conducted to identify significant determinants of true positive TB LAM.

Results: Of the 417 patients enrolled, sputum samples were obtained in 386 patients. The prevalence of TB was 10.6%. The overall sensitivity of TB LAM was 15.8% (95% confidence interval (CI): 6.0-31.3) increasing to 45.0% (95% CI: 16.7-76.6) for CD4 count < 100. The overall specificity was 96.3% (95% CI: 93.7-98.1). The overall sensitivity of Xpert MTB/RIF was 39.5% (95% CI: 24.5-56.0) and 63.6% (95% CI: 30.8-89.1) for CD4< 100. Among those unable to provide sputum spontaneously, the prevalence of TB was 12% and TB LAM sensitivity was 14.3% (95% CI: 0.4-57.90). True positive TB LAM was strongly associated with CD4 count< 100 [OR: 35.8, 95% CI: 3.5-358; p-value=0.003] and Pre-ART status [OR: 11.6, 95% CI: 2.2-60.5; p-value=0.004].

Conclusions: TB LAM may be used in a targeted approach to diagnose TB in patients who have very low CD4 counts (≤100 cells/ml) and more importantly in pre-ART. TB LAM may be used with added value for TB screening in presumptive TB cases who have dry cough. Xpert MTB/RIF diagnostic accuracy was less than expected and require further exploration.
Hepatitis (excluding Hepatitis C)

WEPEB055

LOW PREVALENCE OF LIVER DISEASE IN TREATMENT NAIVE HIV, HBV AND HIV/HBV CO-INFECTED TANZANIANS: A CROSS-SECTIONAL STUDY

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Background: In sub-Saharan Africa, the burden of liver disease associated with HBV and HIV infection is largely unknown. We characterized liver disease using Aspartate Aminotransferase-to-Platelet Ratio Index (APRI) in patients with HIV, HBV, and HIV/HBV co-infection in Tanzania.

Methods: A cross sectional analysis of treatment naïve HIV mono-infected (HIV+), HBV mono-infected (HBV+), and HIV/HBV co-infected (HIV+HBV+) adults (≥18yrs) enrolled at Management and Development for Health (MDH) supported HIV and HBV treatment clinics in Dar es Salaam, Tanzania, was conducted. Risk factors associated with significant fibrosis (defined according to the WHO proposed low cut-off for significant fibrosis APRI ≥0.5 (≥F2)) were investigated in bivariate analyses.

Results: 266 HIV+, 90 HBV+ and 29 HIV+/HBV+ patients were analyzed [females 221 (57.4%), median age 37.1 (IQR 14.3), BMI 21.8 (IQR 6.5)]. HBV+ patients were more likely to be male, younger, consume alcohol and have higher BMI’s than HIV+ or HIV+/HBV+ patients. 61% HIV+ patients were classified as inactive carriers. HIV+/HBV+ patients were more likely to have HBV DNA levels ≥4 log10 IU/ml than HBV patients [45.0% versus 15.2%; p < 0.01] and be HBeAg sero-positive (31.3% vs. 8.2%, p < 0.01).

Median APRI was higher in HBV+ [0.36, IQR 0.14] and HIV+HBV+ [0.31, IQR 0.08] patients compared to HIV+ patients [0.23, IQR 0.17] (p<0.05). A higher proportion of HIV+HBV+/ HBV+ and HBV+ patients had APRI≥0.5 [HIV+HBV+/HBV+ 36.4% vs. HIV+ 13.3% vs. HBV+] 14.1%; p<0.01. In multivariate analyses, HIV/HBV co-infection (vs. HBV mono-infection) but not HIV or HBV mono-infection (vs. co-infection) was associated with APRI≥0.5 (OR 3.6, 95%CI 1.4, 8.3) and HBV DNA levels ≥4 log10 IU/ml (OR 9.6, 95%CI 1.1, 61.0) were associated with APRI ≥0.5 in HIV+ and HBV+ patients, respectively.

Conclusions: Overall rates of significant fibrosis were low in this cohort of HIV, HBV and HIV/HBV co-infected Tanzanians. HIV/HBV co-infection was an independent risk factor for significant fibrosis compared to HIV and HBV mono-infection suggesting more aggressive monitoring of liver related complications in co-infected individuals is required. Further study is needed to determine the effects of HIV and HBV therapies on long-term liver disease progression in this setting.

WEPEB061

IMPROVED LIVER FIBROSIS SCORES IN TREATED HBV/HIV CO-INFECTED PATIENTS IN SOUTH AFRICA DESPITE PERSISTENT IMMUNE DYSREGULATION

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Background: HIV infection negatively impacts the natural progression of HBV infection. However, the effect of HBV on HIV progression is not completely understood. The aim of this study was to measure and evaluate the association between liver fibrosis and immunomarkers of activation and exhaustion in HIV and HBV co-infection.

Methods: Ethical approval was obtained to recruit 46 HBV/HIV co-infected; 47 HBV mono-infected and 39 HIV mono-infected age-matched participants from Tygerberg Hospital, Cape Town. All HIV-infected patients were on HAART for ≥3 months. Liver stiffness measurements were taken using the Fibroscan 402 (Echosens, Paris). Cell-based immunomarkers of activation and exhaustion were measured using multi-parameter flow cytometry.

Results: There was increased expression of HLA-DR/CD38 and PD-1 on CD8 T lymphocytes in co-infected subjects compared to the other two groups (p<0.05). Soluble CD14 and Interferon-gamma-inducible Protein-10 (IP-10) was also significantly elevated in the plasma of co-infected patients. Co-infected subjects exhibited delayed immune recovery with lower CD4/CD8 T cell ratio; CD4 cell counts and more frequent HIV viremia (31% vs 15%) compared to HIV monoinfected participants (p<0.05). The HBV mono-infected group had the highest proportion of participants

Other bacterial infections and parasitic infections (including malaria)

WEPEB053

LATENT TOXOPLASMA INFECTION IS ASSOCIATED WITH WORSE NEUROCOGNITIVE FUNCTIONING IN HIV-INFECTED ADULTS

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Background: HIV-associated neurocognitive disorders (HAND) are well-recognized complications of HIV-1 infection that can impede employment, activities of daily living, and ultimately survival. Antiretroviral therapy (ART) alone is often not sufficient to restore full cognitive functioning, suggesting that the cause of persistent neurocognitive impairment (NCI) may not be fully understood. Since latent Toxoplasma infection (LI) may adversely impact brain function, we investigated its impact on neurocognitive impairment (NCI) in people living with HIV disease.

Methods: 263 HIV+ adults underwent comprehensive neuropsychological assessments and had anti-Toxoplasma Immunoglobulin G (anti-Toxo IgG) measured by qualitative and quantitative enzyme-linked immunosorbent assays.

Results: Participants were mostly middle-aged white men who were taking ART (70%). LI was detected in 30 (11.4%) participants and was associated with a 67% increased relative risk of global NCI (57% LI+ vs. 34% LI-, p = 0.017) with delayed recall specifically affected (p < 0.01). In a logistic regression model of risk of NCI (overall p < 0.001), the probability of NCI increased with increasing CD4+ T-cell counts in LI+ patients, whereas NCI was inversely related to CD4+ T-cell counts among those without LI (p = 0.021, CD4+ p = 0.001, and their interaction p = 0.019). A strong correlation between anti-Toxo IgG levels and global deficit scores (GDS) was also found. Biomarkers indicative of CNS inflammation did not differ between LI+ and LI- participants.

Conclusions: In this cross-sectional analysis of HIV-infected, predominately antiretroviral treated patients, LI was associated with NCI especially in those with CD4 counts > 200. Higher levels of anti-Toxo IgG also correlated with risk of NCI. Longitudinal studies of patients before and after ART initiation could test our hypotheses that episodic cerebral inflammation is increased in LI and that immune reconstitution plays a role in the pathogenesis of cognitive impairment in patients with LI and treated HIV infection. Interventional trials with existing or investigational drugs active against Toxoplasma would further strengthen our findings and could lead to new treatments for HAND in people living with LI.
Methods: A total of 300 plasma samples from an HIV treatment cohort were screened for HBeAg and OBI positive samples using a combination of Big Dye sequencing chemistry and the HBV sequences were analysed for genotypes and escape mutations. Results: The HBV genotypes found in this HBV/HCV coinfected cohort were D, and E. Genotype A predominated in the CHBV cases while genotype D was the predominant genotype in the OBI cases. There was no differential clustering of the HBV genotypes by CHBV or OBI status. Full genome sequencing and functional analysis of the mutations of the CHBV and OBI participants will help determine the mechanism responsible for OBI.

**Hepatitis C**

**WEPE059**

**LEDOPASVR/SOFOSBUVIR FOR 6 WEEKS IN HIV-INFECTED PATIENTS WITH ACUTE HCV INFECTION**


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**Background:** There is no currently approved treatment for acute HCV infection. Guidelines recommend 24 weeks of interferon and ribavirin in HIV-coinfected individuals with acute HCV. Shorter duration all-oral therapy may offer a better-tolerated, more efficacious alternative. We evaluated the safety, tolerability and efficacy of 6 weeks ledipasvir (LDV)/sofosbuvir(SOF) fixed-dose combination in acute HCV genotype 1 or 4 infection in HIV-infected patients.

**Methods:** Patients with an acute HCV infection of < 24 weeks duration, per NEAT AHC guidelines were enrolled. Patients were required to either be receiving HIV antiretroviral (ARV) with HIV RNA < 200 copies/mL, or not on any HIV treatment with no plans to start. Enrollment of patients with active illicit drug use was permitted; acute opportunistic infections or HIV co-infection were excluded. Primary endpoint was sustained viral response defined as HCV-RNA < lower limit of detection 12 weeks after completion of therapy (SVR12).

**Results:** Twenty-six patients were enrolled. All were male, mostly Caucasian (82%), IL28B non-CC (54%), and receiving ARV therapy (96%). Median baseline HCV-RNA was 5.4 log10 IU/mL. Nineteen (73%) patients had HCV genotype 1a infection; 7 (27%) had genotype 4. All patients completed therapy. 22/26 (85%) achieved SVR4. Four (15%) patients relapsed. There was a strong relationship between baseline HCV RNA and treatment outcome (Figure). All patients (21/21) with baseline HCV RNA < 9 million IU/mL achieved SVR4. Treatment was well tolerated; 22/26 (85%) patients had an adverse event; the majority being mild or moderate. One patient had serious adverse event related to a motor vehicle accident and illicit drug use. No patients died or experienced HIV rebound. Post treatment week 12 data will be presented.

**Conclusions:** Six weeks LDV/SOF is effective and well tolerated in HIV-infected patients with acute HCV infection with baseline HCV RNA below 9 million. Acutely HCV-infected patients with higher viral load may require longer therapy.
Retreatment of HCV/HIV co-infected patients who failed 12 weeks of LDV/SOF

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Background: Ledipasvir/sofosbuvir (LDV/SOF) fixed-dose combination is highly effective and safe for genotype 1 HCV-infected patients with HIV co-infection. The 335 HCV/HIV coinfected patients enrolled in the ION-4 Phase 3 study, 3% relapsed (n=10) after 12 weeks of LDV/SOF treatment. These patients were eligible for a retreatment substudy that evaluated the efficacy and safety of LDV/SOF (90 mg/400 mg) plus weight-based RBV for 24 weeks.

Methods: Eligible patients were enrolled within 60 days of the time of confirmed virologic failure. NSSA and NSSB resistance associated variants (RAVs) were evaluated by deep sequencing prior to retreatment and at the time of virologic failure post-retreatment. The primary endpoint was SVR12.

Results: Nine of 10 patients were enrolled and completed treatment. All patients were black, IL28B non-CC, HIV suppressed on ARV regimens with a median baseline HCV RNA was 6.2 log10 IU/mL (range 4.4-7.1). HIV ARV regimens included tenofovir+emtricitabine (TDF+ FTC) with either efavirenz (n=7) or raltegravir (n=2). Prior to retreatment, 2 patients had no NSSA RAVs and 7 patients had high-level NSSA RAVs detected (see Table). The SOF-specific NS5B RAV S282T was not detected in any patients; 1 patient had L159F. Overall SVR12 rate was 89% (8/9): 1 patient relapsed. There were no treatment-emergent SAEs. Fatigue (n=6), cough (n=4), anemia (n=2) and arthropalgia (n=2) were the most common adverse events. No significant lab abnormalities were observed and creatinine clearance was stable on treatment. No patient had confirmed HIV virologic rebound (HIV-1 RNA≥400 copies/mL).

Conclusions: Ledipasvir/sofosbuvir with ribavirin for 24 weeks was well tolerated and demonstrated that successful retreatment is possible in the majority of these genotype 1-infected, NSSA-experienced HCV/HIV co-infected patients.

[Table: Baseline NSSA RAVs for 9 Patients Prior to Retreatment with LDV/SOF + RBV for 24 weeks and Viralogue Outcome]
Two (2.3%) HCV/HIV co-infected tested positive for hepatitis B surface antigen (HBsAg), whilst HBsAg positivity was 11% among HIV mono-infected.

Conclusions: In this Cambodian HIV cohort with low additional risk profile, less than half of HCV antibody positive patients has an active HCV infection. The prevalence of chronic hepatitis C is 3.4%. Predominant genotypes are 1b and 6. A third of the HCV/HIV co-infected have advanced liver fibrosis and are in immediate need of HCV treatment.

WEPEB063
TELAPREIV CONTAINING TRIPLE THERAPY IN ACUTE HCV CO-INFECTION: THE CHAT STUDY
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Background: No published randomised controlled data on the use of direct acting antivirals (DAAs) in acute hepatitis C (AHC) co-infection exist. However, with the AHC epidemic still ongoing among HIV-positive men who have sex with men (MSM) these are urgently needed. Here we evaluate sustained virological response (SVR) rates after response guided telaprevir (TPV) containing triple therapy versus pegylated interferon and ribavirin (PR) alone.

Methods: The CHAT study is a randomised controlled trial of PR plus TPV versus PR alone in the response guided treatment of patients with AHC genotype (GT) 1 infection and HCV co-infection in Germany and Great Britain. Eligible patients were randomised in a 1:1 ratio to PR (arm 1) or TPV + PR (arm 2). Fisher’s exact, chi-square and Mann-Whitney U test were used for statistical analysis.

Results: All 34 patients were male, median age was 40 years. Main route of transmission was MSM (100%). 55% had an IL28B C/C GT. Median baseline HCV-RNA was 291.227 IU/mL and median CD4+ T cell count 676 cells/µL. 85% of all patients received cART, 100% had baseline suppressed HIV-RNA (< 40 copies/mL). Median ALT was 105 U/l. 15 patients were randomized to arm 1, 19 to arm 2. Upon abstract submission SVR12 data on 31 patients were available. SVR12 was seen in 10/12 (83%) patients receiving PR alone and in 15/19 (79%) patients receiving TPV + PR. Of the 4 patients without SVR receiving TPV one experienced a viral breakthrough, 2 were non-responders; in one case HCV protease inhibitor associated TPV + PR. Of the 4 patients without SVR receiving TPV one experienced a virological failure, 2 were non-responders; in one case HCV protease inhibitor associated TPV + PR. Of the 4 patients without SVR receiving TPV one experienced a virological failure, 2 were non-responders; in one case HCV protease inhibitor associated TPV + PR.

Conclusions: Although Telaprevir containing triple therapy offers the advantage of shortened treatment duration in acute HCV coinfection treatment is associated with additional toxicities while not leading to higher SVR rates. Therefore, with the AHC epidemic still ongoing published data on safety and efficacy of IFN-free DAA regimens for AHC are urgently needed.
WEPEB065

EFFECT OF THE TIMING OF HEPATITIS C VIRUS INFECTION, RELATIVE TO HIV SEROCOMPARISON ON CD4 T CELL AND HIV RNA EVOLUTION AMONG HIV-POSITIVE MSM

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Background: An increase in hepatitis C virus (HCV) incidence among HIV-positive men who have sex with men (MSM) has been documented since 2000. Unlike most studies examining the effect of HIV/HCV co-infection among individuals acquiring HCV before HIV, HIV precedes HCV infection for the majority of MSM. We aim to assess the effect of HCV infection and its timing, relative to HIV seroconversion, on CD4 T-cell count (CD4) and HIV RNA (VL) evolution among HIV-positive MSM.

Methods: We included MSM with well-estimated dates of HIV seroconversion (HIVc) from 17 cohorts in the CASCADE Collaboration within EuroCoord. Each newly HCV-infected individual was matched to two HCV-negative ones. We also matched on country of the cohort in ART naive, and on time since start cART initiation. We modeled trends of CD4 and VL using random effects models with the time origin for each triad of individuals aligned on time since HCV inf at HCV infection of the HCV/HCV-coinfected one. We used restricted cubic splines for continuous variables. We included as co-variables: interval from HIV to HCV infection, age at HCV diagnosis and, for those on cART, time since cART initiation.

Results: Of 6,325 ART-naive MSM and 4,856 MSM on cART, 262 and 149 were became HIV/HCV-coinfected, respectively. HCV infection had a borderline significant effect on VL evolution among ART-native MSM, but its effect was not statistically significant among MSM on cART (p=0.05 and p=0.93, respectively). HCV infection timing had no effect on VL evolution (p=0.07 ART-naive & p=0.54 on cART). The effect of HCV infection on the CD4 evolution following HCV infection was highly significant while ART-naive and when on cART (both p<0.001), but did not differ by HCV infection timing (p=0.45 and p=0.54, respectively). CD4 were temporarily lower during the first two years after HCV infection compared to HIV monoinfected individuals, especially among MSM who seroconverted for HIV at older ages. Lower CD4 was more pronounced on cART.

Conclusions: Among HIV-positive MSM, CD4 are temporarily lower during the first two years after HCV infection compared to HIV monoinfected individuals, especially among MSM who seroconverted for HIV at older ages. Lower CD4 was more pronounced on cART.

WEPEB066

DAA VIRAL FAILURE AND SALVAGE THERAPY IN “REAL LIFE”: IS RESISTANCE TESTING (RT) NEEDED?

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Background: The directly acting antiviral Agents (DAAs) have reported excellent HCV cure rates in many clinical trials. However data on HCV cure among HIV/HCV coinfected patients in the real world settings is limited. Hence this study was designed to evaluate the following objectives in the real world setting:

1. To study rates and predictors of HCV cure among HIV/coinfected patients
2. To evaluate the association of frequent clinical monitoring with HCV cure

Methods: This is a retrospective cohort study of adult HIV/HCV coinfected patients from 3 large outpatient settings in Miami, Florida, USA (the Miami Veterans Affairs hospital, a public hospital and a private academic hospital). Medical charts of individuals with HIV/HCV coinfection treated for HCV with DAAs between January 1, 2014 and June 30, 2015 were reviewed. Cure was defined as undetectable HCV viral load 12 weeks post HCV treatment. Adequate follow up was defined as attendance to clinic visit at week 4, week 6-8 and week 12 of treatment.

Results: Eighty four patients were evaluated 12 weeks post treatment. The median age was 58 years (IQR 50-66), 74 (88%) were men and 42 (50%) were black. Twenty patients (29%) had cirrhosis and 49 (58%) were HCV treatment experienced. Most commonly used regimen was Sofosbuvir/ledipasvir (33, 40%) followed by simprevir/sofosbuvir (25, 30%). Cure was achieved in 70 (83.3%) while 10 (11.9%) relapsed and 2(2.3%) experienced virological breakthrough. Two patients (2.3%) did not complete treatment.

In multivariable analysis cure was associated with appropriate follow up clinic visits (OR=9.0, 95% CI=2.9-31.6, p=0.003) and use of an integrate base HCV regimen (OR=6.22, 95% CI=1.81-141, p=0.013). Age, race, genotype, presence of cirrhosis, prior HCV treatment, HCV regimen, HIV coinfection, week 4 response, CD4 counts and pre-treatment HCV RNA were not associated with cure.

Conclusions: Real world HCV cure rates with DAAs in HIV/ HCV coinfection are lower than those seen in clinical trials. Cure is associated with attendance to follow up clinic visits and the use of integrate inhibitors. Future studies should evaluate best antiretroviral regimens, predictors of adequate follow up visits and health care models that ensure adequate HIV/HCV care.
WEPEB087
PREVALENCE OF DIRECT ACTING ANTI-VIRAL (DAA) HCV RESISTANCE ASSOCIATE VARIANTS (RAVs) IN THE US DEPARTMENT OF VETERANS AFFAIRS (VA)

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Background: To determine the prevalence of DAA RAVs in a convenience sample of specimens from patients being treated for HCV infection in VA Methods: Plasma samples collected prior to or after HCV treatment failure were sent frozen overnight to the VA public health reference laboratory and stored frozen until analysis. HCV RNA was extracted from plasma; then RT-PCR amplified for the NS3, NS5A, and NS5B genes using genotype-specific primers. Sanger sequencing was performed on amplicons, and sequences were aligned to genotype-specific reference strains using Geneious software, and RAVs were called based on publically available information. Genes evaluated for each sample were based on physician orders, so not all 3 genes were tested in all samples. Data on HCV genotype, HCV treatment history, and HIV status was also collected. Baseline samples in patients experiencing DAA regimen failure were not available for comparison of preexisting mutations.

Results: 648 unique patient samples were received from 67 different VA medical centers from 2/1-2015 to 8/2016; 43% patients (66) were HIV co-infected. Genotypes tested were: GT1a (66), GT1b (98), GT3a (132), GT2b (21), GT4a (6), GT2a (2), RAVs were found in 106/284 (34%), 129/310 (42%), and 21/305 (7%) of NS3, NS5A, and NS5B tested respectively. Seventy-seven and 11 samples had RAVs in 2 and 3 genes respectively.

Conclusions: The prevalence of DAA RAVs was very high in this cohort, with significantly higher burden in HIV infected women compared to HIV uninfected patients. This data will assist Zimbabwean policy makers in upgrading cervical and anal cancer screening algorithms. We recommend that HPV DNA testing be used to reduce the incidence of cancer especially in HIV positives.

WEPEB069
PREVALENCE OF HUMAN PAPILLOMAVIRUS IN ZIMBABWEAN WOMEN PRESENTING FOR CERVICAL CANCER SCREENING: DOES HIV HAVE A SIGNIFICANT ASSOCIATION WITH THE BURDEN?


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Background: The burden of cervical and anal cancers remains high despite widespread availability of antiretroviral therapy (ART), mainly as a result of persistent human papillomavirus (HPV) infections among HIV infected individuals. Recent availability of HPV vaccines provides an opportunity towards control of HPV burden. The objective of this study was to determine the prevalence of anal and vaginal HPV in Zimbabwean women reporting for routine cervical cancer screening by visual inspection with acetic acid (VIA).

Methods: This was a cross sectional study carried out at a tertiary hospital VIA clinic in Harare, Zimbabwe. Women ≥18 years were enrolled. HIV testing and counseling were offered. Participants provided a self-collected vaginal swab (VS) and a clinician collected anal swab (CCAS). Dacron swabs were used and stored in 500µl of guanidine thiocyanate. DNA was extracted using a standard chloroform/phenol method. For HPV detection and genotyping, 450 bp PGMY amplicons from the L1 region was sequenced using the MiSeq platform. A Chi² Fisher’s test was used to test for association of HPV and HIV.

Results: One hundred and forty four women aged 18-83 (median 38) were enrolled. All samples were positive for the beta globin gene, hence valid for analysis. Overall HPV prevalence was 72% (104/144) in VS and 81% (90/112) in CCAS. The odds of being HPV positive among the HIV infected were higher than in their HIV negative counterparts. Table 1 shows associations between HPV and HIV status. The most common high risk genotypes were: VS HIV 18(24%), 52(23%) & 16(21%) and CCAS HPV 52(19%), 18(17%) and 16(14%).

Background: HIV infection increases the risk of developing invasive cervical cancer (ICC), but data on ICC burden and the impact of PAP based screening in HIV-positive women in sub-Saharan Africa is scarce. We assessed ICC risk and the impact of PAP based screening in HIV-positive women receiving combination antiretroviral therapy (ART) at Thembelile Clinic (TLC), an ART program in Johannesburg, South Africa.

Methods: We included HIV-positive women aged ≥18 years who participated in the TLC cohort and initiated ART after enrollment between 2004-2011. Cervical cancer cases were identified through a record linkage with the National Cancer Registry. We used Cox models to assess risk factors for developing ICC after ART initiation. The multivariable Cox model included age and World Health Organization (WHO) HIV/AIDS stage at ART initiation, ART regimen, and ART start before or from 2009 onwards, when systematic PAP based cervical cancer screening was introduced at TLC. We present incidence rates per 100,000 person-years (pys) and adjusted hazard ratios (aHR) with 95% confidence intervals (CI).

Results: We included 10,654 HIV-positive women who initiated ART at TLC; median CD4 cell count at ART initiation: 113 cells/µl (interquartile range [IQR] 46-184), median age at ART initiation: 35.0 years (IQR 29.8-41.8). The median follow-up time was 2.1 years (IQR 1.7-4.2). During 17,352 pys 136 women developed ICC for an overall incidence rate of 497/100,000 pys (95% CI 420-588). With the introduction of PAP based screening in 2009 the incidence rate per 100,000 pys decreased from 545 (95% CI 457-650) to 260 (95% CI 248-458) for an adjusted HR of 0.5 (95% CI 0.3-0.9). Additional risk factors identified were advanced HIV/AIDS stage at ART initiation (WHO stage 4 versus 1, aHR 2.0, 95% CI 1.2-3.3) and older age at ART initiation (aHR 1.26 versus 18-25 years, aHR 2.2, 95% CI 0.9-5.0).

Conclusions: Women who initiated ART after the introduction of a PAP based cervical cancer screening program in 2009 had a much lower risk of developing ICC than those who initiated ART before. However, ICC risk on ART remained high, and ICC prevention needs to be further improved.
OTHER SEXUALLY TRANSMITTED INFECTIONS

WEPEB071
PREVALENCE AND CORRELATES OF GENITAL INFECTIONS AMONG HIV-INFECTED ADULTS NEWLY ENROLLING IN HIV CARE IN WINDHOEK, NAMIBIA

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Background: Identifying and treating sexually transmitted infections (STI) among newly diagnosed HIV-infected individuals may benefit both public and individual health. There is a scarcity of information on routine STI screening in HIV care programs in sub-Saharan Africa. We assessed prevalence of genital infections and their correlates among newly diagnosed HIV-infected individuals entering HIV care services in Namibia.

Methods: HIV-infected adults newly enrolling in HIV care at two public health facilities in Windhoek, Namibia were recruited from June 2012 to April 2013. Behavioral and clinical data such as CD4 cell counts was collected from participants. Genital and/or blood specimens were tested for gonorrhea, chlamydia, trichomoniasis, mycoplasma genitalium, syphilis, bacterial vaginosis, and vulvovaginal candidiasis.

Results: Among 599 participants, 56% were females and 15% reported consistent use of condoms in the past 6 months. Bacterial vaginosis (37.2%), trichomoniasis (34.6%) and Chlamydia (14.6%) were the most common STIs in women while 11.4% of men were diagnosed with mycoplasma genitalium. In comparison, prevalence of gonorrhea and syphilis was lower in both men and women. Correlates for trichomoniasis infection included being female (adjusted relative risk, [aRR], 6.6; 95% confidence interval [CI], 3.67-11.89), higher education (aRR, 0.64; 95% CI 0.4-1.0) and lower CD4 cell count (aRR, 1.67; 95% CI 1.12-2.5). Being female (aRR, 2.38; 95% CI 1.27-4.5), non-married (aRR, 2.29; 95% CI, 1.27-4.2) and having condom-less sex (aRR, 2.70; 95% CI, 1.05-6.96) were independently associated with chlamydial infection. Across all infections, after adjusting for sex, non-married participants were more likely to present with multiple STI (aRR, 1.29, 95%CI, 1.06-1.59).

Conclusions: Women newly enrolling in HIV care in Namibia have disproportionate- ly high rates of curable STI, especially trichomoniasis and Chlamydia, indicating that implementation of aggressive screening and treatment for genital infections may be useful to increase prevention and early detection of STI among persons living with HIV. Treating sexual partners, and promoting risk reduction strategies, including pro- vision of condoms, may enhance secondary prevention efforts.

WEPEB072
HIGH LEVELS OF INFLAMMATORY CYTOKINES IN THE GENITAL TRACT OF WOMEN WITH BV ENGAGING IN VAGINAL DOUCHING: CROSS-SECTIONAL STUDY OF THE MIAMI WOMEN INTERAGENCY HIV STUDY (WISHS)

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Background: High levels of inflammatory cytokines in the female genital tract are indicative of mucosal vulnerability and associated with an increased risk of HIV. Vaginal cleansing with commercially available douches is a major risk factor for developing bacterial vaginosis (BV) and both cleansing and BV are associated HIV acquisition.

This study evaluated inflammatory cytokines in the genital tract in women with BV who engage in vaginal douching to gain an understanding of the damaging effects of both BV and vaginal douching on the vaginal mucosa.

Methods: Cross-sectional study of women enrolled in the Miami WISHS study. Reproductive aged women (n=72): 45 HIV+ and 27 HIV-) completed vaginal douching questionnaires. BV was assessed by Nugent score. Inflammatory cytokines (IL-6, IL-8, IL-1α, IL-1β, sICAM, IFNα2, RANTES, and VEGF) were measured in cervicovaginal lavages by multiplex analysis. SLPI was measured by ELISA.

Results: Fourteen (19.4%) women engaged in vaginal douching, and 24 (33.3%) had BV. In univariate analysis, having BV, engaging in vaginal douching and having HIV infection were associated with increased inflammatory cytokines.

HIV-ASSOCIATED NEUROCOGNITIVE DISORDER (HAND)

WEPEB073
EVALUATING A TABLET APP FOR LAY HEALTH WORKERS TO SCREEN FOR HAND IN SOUTH AFRICA

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Background: HIV-associated neurocognitive disorder (HAND) remains prevalent among people living with HIV and negatively impacts activities of daily living. Routine screening for HAND rarely occurs, especially in settings, such as South Africa, with limited resources and a shortage of skilled health personnel. Current HAND screening tools, which require additional equipment (e.g., stopwatch, pen-cils, and paper forms) and skilled personnel to administer, score and interpret, are difficult to use in South African clinical settings.

NeuroScreen, an Android tablet app, was developed as an alternative screening tool for HAND. It takes approximately 20 minutes to complete, is highly automated with standardized instructions, does not require additional equipment, and can be administered by lay health workers. This study examined the sensitivity and specificity of NeuroScreen to detect neurocognitive impairment within HAND in a South African clinical setting when administered by lay health workers.

Methods: Sixty-four isiXhosa-speaking South African, HIV+ adults were administered NeuroScreen by a lay health worker. Immediately afterwards, participants completed a full neuropsychological assessment, administered by a trained research psychometrist, consisting of well-established paper-and-pencil tests. Locally normed Z-scores were computed for all tests in the full battery and were used to calculate a global deficit score (GDS). A Receiver Operating Characteristic (ROC) curve was computed with the NeuroScreen composite Z-score and the GDS cut-score of 0.5 or higher (indicating at least mild impairment) as the state variable.
Results: Participants were 31.89 years old (SD±6.22), 80% female, and 81% not having graduated from high school. Using the GDS cut-score, 48% of the sample had impairment. The area under the curve for NeuroScreen was 76%. The NeuroScreen composite score 2 of ≤0.09 maximized sensitivity and specificity at 74% and 79%, respectively, and yielded a positive predictive value of 77%, and negative predictive value of 76%. NeuroScreen misclassified 15 participants - 7 false positives and 8 false negatives.

Conclusions: Preliminary analyses suggest that NeuroScreen has clinically useful test characteristics when administered by lay health workers and may be a useful screening tool in South African clinical settings. Further research is needed to evaluate these test characteristics in larger samples, specific HAND types, and implementation in resource-limited clinics.

WEPEB074
AN IMBALANCE BETWEEN MATRIX METALLOPROTEINASES AND ENDOGENOUS TISSUE INHIBITORS OF METALLOPROTEINASES CONTRIBUTES TO HIV-1-ASSOCIATED CO-MORBIDITIES

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Background: Combined antiretroviral therapy (cART) has profoundly reduced traditional HIV-1-associated morbidity and mortality. However, HIV-1-associated co-morbidities are increasingly being seen and importantly influence patient management. For example, the prevalence of HIV-1-associated neurocognitive disorders (HAND) and HIV-1-associated cardiovascular diseases (HCVD) remains high despite widespread use of cART. While the mechanisms have not been fully understood, growing evidence suggests that an imbalance between matrix metalloproteinases (MMPs) and endogenous tissue inhibitors of MMPs (TIMPs) contributes to both HAND and HCVD.

Methods: Enzyme immunoassay and zymography assay were used to determine plasma level and proteolytic activity of MMPs from 10 healthy donors (HD), 43 HIV-1 patients who were cART-native (ART⁺), and 16 HIV-1 patients with a stable virologic suppression by cART (ART⁻). Plasma levels of TIMPs, inflammatory cytokines, microvascular translocation, and the markers of monocyte/macrophage activation were also determined in these subjects.

Results: We found that plasma level and proteolytic activity of MMPs, specifically MMP-2 and MMP-9, were significantly increased in HIV-1 patients when compared with that in healthy individuals. TIMP-2, one of the four TIMPs, was profoundly down-regulated in HIV-1 patients, and the down-regulated TIMP-2 found in blood from HIV-1 patients was strongly correlated with elevated proteolytic activity of MMPs. The alternations of MMPs and TIMP-2 in HIV-1 patient were not affected by cART, indicating that cART extends the lifespan of HIV-1 patients but does not completely recover tissue-remodeling functions. We also found that the ratio of MMPs/TIMP-2 was correlated with elevated plasma levels of sCD14, sCD163, and inflammatory cytokines such as TNF-α and IL-6, suggesting that the imbalance of MMPs/TIMP-2 revealed in HIV-1 patients is related to monocyte/macrophage activation, inflammation and microbial translocation. Importantly, the imbalance of MMPs/TIMP-2 was more profound in HIV-1 patients with severe HAND or HCVD when compared with those without HAND or HCVD.

Conclusions: The imbalance of MMPs/TIMP-2 occurred in HIV-1 patients, which plays a key role in the pathogenesis of HIV-1-associated co-morbidities.

WEPEB075
NEUROCOGNITIVE PERFORMANCE AND NORMATIVE COMPARISON DATA IN HIV-+ AND HIV- INDIVIDUALS IN RAKAI, UGANDA

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Background: Neurocognitive impairment remains prevalent despite ART, and the CNS is an important potential latent reservoir and compartment for HIV. Many resource limited settings (RLS) do not have the training or resources to assess neurologically and neuropsychologically (NP) function in participants with HIV. We enrolled site specific HIV- participants to create normative data, and applied to HIV+ participants.

Methods: 400 HIV- and 390 HIV+ ART naive participants in the Rakai Community Cohort Study underwent standardized neuropsychological assessments. Participants were stratified by 2 gender x 3 education x 2 (age) matrix for deriving the normative comparison data. Education cutoffs were <4, 4 to 6, and >7 years; while age cutoffs were <36 and >35 years. All participants were administered a neuropsychological battery that assessed attention, fluency, learning, memory, gross motor, fine motor, speed of processing and executive functioning.

Results: We enrolled 400 HIV- participants (190 females) with a mean age of 35 years (SD 8.1) and mean of 5.74 years of education (SD 3.5); and 390 HIV+ participants (185 females) with a mean age of 35.5 years (SD 8.5) and mean of 5.2 years of education (SD 3.4). The mean CD4 cell count was 262 (SD 171) for the HIV+. At baseline, there was no significant difference in overall neuropsychological performance in these well matched HIV- (total z score M -0.02, SD 0.55) and HIV+ (M -0.07, SD 0.62). Similar results were found for the domains of functioning.

Conclusions: No substantial neurocognitive differences were found between the HIV- and HIV+ participants. The importance of regional specific normative comparison data is well known, but often the resources are not available to collect this necessary data. This normative comparison database will serve as a resource for both clinicians and researchers for assessing neurocognitive performance and brain functioning for years to come.

WEPEB076
ADHERENCE TO ANTIRETROVIRAL THERAPY AND NEUROCOGNITIVE IMPAIRMENT IN SOUTH AFRICA

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Background: Despite improvement in antiretroviral treatment (ART), neurocognitive impairment remains prevalent among people living with HIV (PLWH). It is generally thought that neuroinflammation, rather than high viral load, may be responsible for neurocognitive impairment in HIV, and that early ART minimizes neuroinflammation. For ART to be optimally effective high adherence (>90%) is required. Non-adherence may result in neurocognitive impairment, as well as poor health outcomes, decreased activities of daily living. This study examined the relationship between ART adherence and neuropsychological functioning among HIV+ South Africans for their first 6-months on ART.

Methods: One-hundred and two, XuXoA-speaking, HIV+ South African adults initiating ART and who were enrolled in an ongoing ART adherence intervention trial monitoring ART adherence were administered a comprehensive neuropsychological test battery 12 months post-ART initiation. Locally normed Z-scores were computed for all tests in the battery and were used to calculate a global deficit score (GDS) where 0.5 or higher indicated at least mild impairment. Adherence was continuously measured using an electronic monitoring device (WisePill). One-year post-ART initiation viral load test results were abstracted from medical charts. Multiple linear regression examined the relationship between adherence and GDS.

Results: Participants were 33 years old (SD±7.5 years), and 81% female; most (80%) had not graduated from high school. Using the cut-score, 55% of the sample were classified as neuropsychologically impaired. Mean adherence for the first 6-months post-ART initiation was 64% (SD±31%). Of the 73 viral load test results available from medical charts, only 3% (n=2) had detectable virus. A multiple linear regres-
Neurocognitive impairment remains prevalent despite antiretroviral therapy (ART), and is particularly concerning in resource limited settings (RLS) where access to ART is limited. Most RLS do not have the training or resources to assess neurological and neuropsychological function in participants with HIV. We trained psychometricians to conduct neurocognitive evaluations in Ibadan Nigeria, in order to characterize HIV associated Neurocognitive Disorders locally.

Methods: We enrolled HIV+ participants presenting for care at the HIV Clinic, UCH, Ibadan in the longitudinal Ibadan Cohort of NeuroAIDS (ICON) study. Participants were administered a neurocognitive battery that assessed total neurocognitive functioning, and the domains of fluency, attention, learning, memory, fine motor, speed of processing and executive functioning. African specific norms were utilized where available to create normalized z scores. Depression was assessed using a PHQ 9 questionnaire.

Results: 208 HIV+ participants were enrolled in ICON. 149 were female (72%); mean age was 37.5 years (SD 9.4); and mean educational level was 12.97 years (SD 3.1). The total z score (positive scores reflect better performance) was -1.36 (SD 0.81). Mean domain (SD) scores were fluency -1.18 (1.04), attention -2.45 (2.49), learning -1.05 (1.35), memory -7.3 (1.25), fine motor -4.2 (1.99), speed of processing -1.98 (-.88), executive functioning -2.25 (1.07). Using a -1.5 total z cutoff, 42% were neurocognitively impaired. There was a significant correlation between the International HIV Dementia scale and overall neurocognitive functioning (r = .30, p < .0001) and each of the domains (p < .01). Poorer neurocognitive performance was associated with increased depressive symptoms (r = -.14, p < .05).

Conclusion: Neurocognitive impairment was common and was associated with depressive symptoms, although regional African norms were utilized where possible. Collection of site-specific normative data from HIV seronegative participants is being undertaken to provide a more comprehensive and valid assessment.
Results: Of the 2137 children aged 0-16 enrolled, 53 were diagnosed with epilepsy (2.48%) of which 50 (2.34%) had comprehensive medical records available. 26 were male (52.0%) and the median age at epilepsy diagnosis was 50 months. The median CD4 count was 591 cells/mm³ and the mean viral load was 4.9 log copies/ml. WHO clinical stage was available in the record for 46 of the sample, with 3, 6, 26 and 11 graded at stages 1, 2, 3 and 4, respectively. 40% had a history of CNS infection prior to epilepsy diagnosis and 30% were diagnosed with cerebral palsy.

Conclusions: In this descriptive study we found a prevalence of epilepsy of 2.48%, most of which was diagnosed in children with advanced HIV disease. Our findings support the use of earlier initiation of ART in HIV-infected children to reduce HIV-related neurological manifestations like epilepsy. It also reveals the effectiveness of accessing cohort-level data using novel technologies that allow for interrogation of clinical data.

WEPEBO80
THE EMERGENCE OF METHAMPHETAMINE ABUSE AMONG HIV-INFECTED VIETNAMESE PATIENTS ATTENDING OUTPATIENT CLINICS: IMPLICATIONS FOR HIV CARE AND PREVENTION

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Background: Methamphetamine (MET) abuse may co-occur with mental illnesses and their combination can complicate the management of medical conditions such as antiretroviral therapy (ART). This study examines the associations between recent MET use and psychiatric disorders among men attending HIV outpatient clinics in Hanoi, Vietnam.

Methods: HIV-infected men with a history of opioid injection released from drug detention centers were invited to participate in a study during 2013-2015 evaluating access and utilization of ART. Participants underwent an interview and urine drug testing. Anxiety and depressive symptoms were measured by Beck Anxiety Inventory and Center of Epidemiologic Studies Depression Scale (CES-D). Multiple logistic regression model was used to identify factors associated with recent MET use at baseline visit.

Results: Among 372 participants (mean age, 36 years old), 38% tested positive to morphine and 11% positive to MET, indicating recent use. In bivariate analyses, MET-positive participants were more likely to reside in urban areas (p=0.02), to have more depressive symptoms (p=0.001), and to have slightly more anxiety symptoms (p=0.09). There were no significant differences in age, employment status, or income. In a multivariable model controlling for duration of drugs injecting, recent heroin use, and baseline CD4 count, recent MET use was significantly associated with depressive symptoms (adjusted odds ratio [AOR]=1.6 for 10-point increase in CES-D score, p=0.001) and reporting to have 2 or more female sexual partners in the previous 3 months (AOR=2.5, p=0.03).

Conclusions: Recent methamphetamine use is prevalent among current and former opioid users in Vietnam and has a clinical impact. The study findings may be useful to guide efforts to improve HIV care through screening for and addressing MET abuse and related psychiatric disorders along with HIV treatment efforts.

WEPEBO81
INCREASING ACCESS TO ANTIDEPRESSANT TREATMENT FOR HIV+ ANTIRETROVIRAL THERAPY (ART) PATIENTS IN HAITI THROUGH MEASUREMENT BASED CARE (MBC): SAFETY AND PRELIMINARY EFFICACY

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Background: Depression is highly prevalent among people living with HIV (PLWH) and associated with HIV risk behavior, poor adherence to ART, and higher AIDS-related mortality. In resource-limited settings like Haiti, there is little or no available mental health treatment. Improving access to mental health care for PLWH is critical to the long-term success of global HIV treatment efforts. MBC was developed to improve access to depression treatment among PLWH. It is an evidence-based, task-shifting intervention where non-physicians known as Depression Care Managers (DCM) use depression treatment algorithms to advise prescribing clinicians in anti-depressant treatment. Originally developed in the US, we adapted MBC for Haitian lay health workers and pilot-tested it in Port-au-Prince, Haiti.

Methods: HIV+ patients beginning ART received depression screening with a Haitian Creole Patient Health Questionnaire (PHQ-9). Those scoring 10 or higher received a confirmatory test for major depressive disorder (MDD). Those diagnosed with MDD were randomly assigned to MBC (regular telephone and in-person assessment of depression symptoms and algorithm-based adjustment of antidepressant (fluoxetine) dosing) or enhanced usual care (training of HIV doctors in depression care, alerting them to the participant’s MDD diagnosis and PHQ9, and adding fluoxetine to the clinic formulary).

Results: Between May and December 2015, 482 patients were screened; 21% had confirmed MDD. Pilot participants numbered 78; 43 were assigned to MBC and 35 were assigned to enhanced usual care. Participants were 61% female. Age ranged from 20 to 66 (median 36) years. MBC and comparison groups did not differ significantly at baseline; median PHQ-9 at baseline was 14 (IQR=11-16.5) for the MBC group and 14 (IQR=12-16.5) for the comparison group. At 3-month follow up, the MBC group had significantly reduced depression symptoms (median PHQ9=4.0, IQR=1.5-8) compared to the comparison group (median PHQ9=10.0, IQR=2-18) p =0.036. No study-related adverse events or serious side effects from antidepressant use were observed.

Conclusions: MBC resulted in a significant reduction in depression symptom severity among HIV+ patients with MDD in Haiti. The measurement, monitoring and support offered by MBC can serve to improve treatment outcomes, reduce needless suffering, and increase access to depression treatment in resource-limited settings.

WEPEBO82
PREVALENCE, RECURRENCE AND INCIDENCE OF CURRENT DEPRESSION AMONG PEOPLE LIVING WITH HIV IN ONTARIO, CANADA: RESULTS FROM THE ONTARIO HIV TREATMENT NETWORK COHORT STUDY

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Background: Current studies of depression among people living with HIV focus on describing its point prevalence. Given the fluctuating nature of depression and its profound impacts on clinical and quality-of-life outcomes, this study aimed to examine the prevalence, recurrence and incidence of current depression longitudinally and systematically among HIV-positive patients in Ontario, Canada.

Methods: We conducted a prospective cohort study using linked data from the Ontario HIV Treatment Network Cohort Study and administrative health databases between October 1, 2007 and December 31, 2012. Current depression was identified using the Centre for Epidemiologic Studies Depression Scale or the Kessler Psychological Distress Scale, first at baseline and again during follow-up interviews.
The three outcomes were characterised by participants' social demographics, housing-related conditions, and health status.

Results: Of the 816 HIV-positive participants with HIV care, the point prevalence of depression was estimated at 28%. Current depression was especially prevalent among participants who were younger, female, earning a low income, and having difficulty with housing-related expenses or not feeling a sense of neighbourhood belonging. Of the 801 participants who were identified with depression at baseline and had at least two-year follow-up data, 51% had a recurrent episode; the first recurrent rate was 13.8 per 100 person-years. The cumulative incidence of 1393 depression-free participants was 17%, and the incident rate was 4.4 per 100 person-years. During follow-up, participants who had history of depression (adjusted hazard ratio [aHR]: 1.3, 95% Confidence Intervals [CI]: 1.06-1.6) or felt worried about their housing situation (aHR:1.7, CI:1.3-2.2) were more likely to have elevated recurrence whereas those who felt better control in their housing situation (aHR:0.6, CI:0.4-0.9) were protected from developing incident cases.

Conclusions: Depression is prevalent and likely to recur among HIV-positive patients. Our results reinforce the importance of effective delivery of mental health care in the context of HIV treatment and demonstrate the need for long-term support and routine management of depression, particularly for individuals at high risk.

WEPEB084

SEROPREVALENCE AND VIRAL QUANTIFICATION OF KAPOSI SARCOMA ASSOCIATED HERPESVIRUS (KSHV) IN A HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTED ADULT SOUTH AFRICAN COHORT

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Background: Kaposi Sarcoma-associated Herpes virus (KSHV) is etiologically implicated in Kaposis's Sarcoma (KS). Serological studies of KSHV have not been well documented in the South African population, yet KS has become an increasingly prominent HIV associated malignancy. This study investigates the seroprevalence and KSHV viral load in adult South African cohort.

Methods: Cross-sectional data was analyzed from 140 patients attending an urban research clinic site, Durban 2013. The cohort was divided into 70 HIV infected and 70 HIV uninfected individuals. Antibodies against latent (Orf73) and lytic (K8.1) KSHV antigens were detected on serum from all participants. Those reactive against either antigen were considered seropositive. Subjects simultaneously reactive for K8.1 and Orf73 were analyzed for KSHV DNA, extracted from saliva and quantified using primers for the K6 gene region.

Results: Demographic characteristics of the 140 participants regarding gender and age were similar. Seventy five subjects [54%] tested positive for KSHV with 46 (33%) reactive to K8.1, 52 (37%) reactive to Orf73 and 29 (21%) reactive to both. Fifty percent of HIV infected subjects were seropositive for K8.1, and 46% for Orf73. In the HIV negative group 16% tested seropositive for K8.1 and 29% for Orf73. The viral load of the positive subjects demonstrated a significantly higher percentage KSHV seropositivity (70% vs. 37%; p = 0.0001). Subjects reactive to both antigens were analyzed for KSHV DNA. This was detected in 3 of the 24 HIV infected specimens tested (mean VL of 3x1010 KSHV copies per 106 cells). Viremia was detected in 3 of the 5 HIV uninfected specimens (mean VL of 6x107 KSHV copies per 106 cells). The VL variance between the two groups was significant (p<0.0001) with a higher VL burden in the HIV infected group.

Conclusions: KSHV seroprevalence is high in adults attending an urban HCT clinic. HIV-positive individuals are more likely to be KSHV seropositive. It is also suggestive that HIV positive individual are more likely to have a higher KSHV viral load.

WEPEB085

BEYOND CERVICAL CANCER: GYNECOLOGICAL MALIGNANCIES AND TREATMENT IN HIV+ WOMEN

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Background: As life expectancy of HIV+ women increases, there is increasing need to understand gynecologic malignancies beyond cervical cancer. There are no recent reports on the care of HIV+ women with these cancers nor HIV-specific guidelines. Thus, here we describe gynecological malignancies in HIV+ women and evaluate care and adherence to general treatment guidelines.

Methods: Johns Hopkins and University of Maryland clinic records and billing codes were used to identify all gynecologic cancer cases from 2000-2015. Chart reviews were conducted to obtain demographic, HIV, and cancer-related information. Abstraction of cancer treatment modalities allowed determination of adherence to NCCN guidelines for each cancer type. Descriptive statistics were calculated to describe the patient population, cancer characteristics, and provision of treatment. Results: Over the 15 year period, 47 gynecologic malignancies were identified in HIV+ women. The median age at diagnosis was 45 (IQR: 36-51), 89% of women were black, 60% were smokers, and 32% reported alcohol use. A roughly equal percentage of cervical cancers were identified (49%) compared to all other types combined.
bined (11% endometrial; 13% ovarian; 28% vaginal/vulvar). Women with vaginal/vulvar cancers were similar in age and CD4 count to women with cervical cancer but women with endometrial and ovarian cancers tended to be older and have higher CD4 counts at diagnosis. Treatment according to NCCN-guidelines was similar across cancer types: 96% of the 23 cervical cases; 85% of the 13 vaginal/vulvar cases although two stage I patients received no treatment; 100% of the 5 endometrial cases (all stage I); and 5/6 ovarian cases although only 1/2 late stage (III/IV) cases received ideal treatment (chemotherapy+surgery).

Conclusions: Most HIV+ women were treated according to NCCN-guidelines. However, over a third of women with cervical/vaginal/vulvar cancer did not receive radiation-sensitizing chemotherapy, and women with late stage ovarian cancer tended to receive less than ideal treatment. Data on outcomes following cancer treatment in HIV+ women as compared to the general population are being collected to inform the need for specialized management in this population.

WEPEB086
CANCER TREATMENT IN ELDERLY INDIVIDUALS WITH HIV INFECTION IN THE UNITED STATES
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Background: HIV+ individuals are at increased risk for many cancers, and with an increasing life expectancy due to widespread HAART, this is a growing problem for older adults. Previous studies also suggest that HIV+ individuals may be less likely to receive treatment for cancer. The extent to which rates or specific types of cancer treatment may differ between elderly HIV+ and HIV- individuals is unknown.

Methods: Using SEER-Medicare linked data, we explored differences in cancer treatment by HIV status in Americans aged 66-99 years and diagnosed with non-Hodgkin lymphoma, melanoma, or anal, bladder, breast, colorectal, kidney, liver, lung, or prostate cancer from 1995-2009. HIV+ was identified as the presence of ≥2 Medicare claims with ICD9 diagnosis codes 042, 043, 044 or 048 at least 30 days apart. Medicare claims were searched for cancer-specific surgery, chemotherapy, radiation, hormone/biologic therapy, and/or transplant.

Results: HIV+ cancer cases (n=617) were significantly younger than HIV- cases (p=0.001) and this difference was even more apparent in individuals ≥70 years (68% treated in HIV+ vs. 82% in HIV-). Median time to treatment was also slightly, but significantly, longer for HIV+ (34 vs. 31 days for HIV+). However, after taking into account differences by gender, race, year, socioeconomic status, comorbidities, and type and stage of cancer, there was no significant effect of HIV on receipt of treatment, regardless of age. Of note, advanced stage at diagnosis had the strongest independent (negative) association with receipt of treatment.

Conclusions: Differences in cancer treatment between HIV+ and HIV- individuals in the elderly American population are likely mediated through difference in personal, medical, or cancer-specific characteristics, which will be explored through advanced analytical techniques. Our findings highlight the complex interplay between age, multiple comorbidities, and cancer-specific differences by HIV, making it clear that a better understanding of factors impacting the cancer care continuum are needed.

WEPEB087
CORRELATION OF ADIPOCYTOKINE LEVELS IN DIFFERENT TYPES OF LIPODYSTROPHY IN HIV/AIDS PATIENTS
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Background: Combination antiretroviral therapy (cART) can induce metabolic complications including lipodystrophy, dyslipidemia, and insulin resistance in HIV-infected patients. Adipokines may play important role in these alterations, especially in lipodystrophy. The aim of this study was to evaluate the relationship between serum levels of adipocytokines in four different categories of fat distribution: liposar- tropy (LA), lipohypertrophy (LH), mixed fat redistribution (MFR) and no-lipodystrophy in HIV-infected patients.

Methods: Cross-sectional study of 65 HIV-infected adults. Levels of adiponectin, resistin, leptin, interleukins (IL-1α, IL-1β, IL-1, IL-6, IL-8, IL-10), plasminogen-activator-inhibitor-1 (PAI-1), C-peptide, cystatin-C, tumor necrosis factor alpha (TNF-α), vascular-endothelial-growth-factor (VEGF), epidermal-growth-factor (EGF), interferon-gamma (IFN-γ) and monocyte-chemoattractant-protein-1 (MCP-1) were measured. Differences between groups were tested using t-test and Mann-Whitney test, and analysis of covariance to examine relationship between adiponectin and leptin and lipodystrophy categories adjusted for confounding variables.

Results: The lipodystrophy was observed in 29 (44%) patients, while 15 (25%) of them had LA, 4 (14%) had LH and 10 (34%) patients had MFR. LH patients had higher levels of adiponectin (p=0.012), leptin (p=0.039), cystatin-C (p=0.001), IL-6 (p=0.065), and lower levels of IL-4 (p=0.052). LA patients had lower levels of IL-4 (p=0.043), IL-10 (p=0.031) and IL-1α (p=0.051). Correlation of adiponectin with lipodystrophy remains statistically significant in the subgroup of patients with lipohypertrophy after adjustment for age, BMI, cystatin-C, PAI-1, IFN-γ (p=0.001).

Conclusions: Adiponectin was shown to be important marker in fat disturbances in patients undergoing cART and directly associated with lipohypertrophy, and could be the possible target for new therapeutic strategies in HIV/AIDS patients.

WEPEB088
CHANGES IN PLATELET AGGREGATION AND COAGULATION MARKERS IN HIV-1 INFECTED INDIVIDUALS SWITCHING TO OR FROM ABACAVIR: FIRST RESULTS FROM THE TENSOFIVR ABACAVIR PLATELET ACTIVATION STUDY (TAPAS)
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Background: Some studies have reported an association between abacavir and an increased risk of cardiovascular events. TAPAS aimed to determine changes in platelet aggregation, functional coagulation and markers of coagulation after switching to or from abacavir as part of combination antiretroviral therapy (cART).

Methods: TAPAS is an investigator initiated, open labeled, cross over study. Participants receiving cART containing abacavir (AB group) or not (AT group) were randomized to regimen containing tenofovir/emtricitabin (AT group) and vice versa (AB group). The third cART drug remained unchanged. Blood samples were drawn before switching and 85-90 days after therapy change. Platelet aggregation was analysed by impedance aggregometry with the following agonists: Adenosinediphosphate (ADP), arachidonic acid (AsPA), thrombin receptor agonist peptide (TRAP) and ristocetin in high (RISTOhi) and low (RISTOLow) concentration. Functional coagulation was assessed by thromboelastography (TEG) using the variables reaction time, angle, maximal amplitude, time to maximal amplitude, lysis after 30 minutes, and clot lysis time. Further, platelet count, coagulation factors II-VII-X (CF), fibrinogen and anti-thrombin III (ATIII) were measured.
Results: We included 55 male individuals of whom 19 and 24 completed the study in the AT and the TA group, respectively. The platelet aggregometry showed no differences between the groups in absolute change in platelet reactivity with either of the examined agonists. Likewise, TEG showed no differences between the groups in absolute change in any of the given variables. Changes in platelet counts, fibrinogen levels and AT3 levels were also similar between groups. In the TA group, CF increased median 0.13 units/L (IQR 0.04-0.20), whereas a decrease of median -0.07 units/L (IQR -0.13 - -0.04) was observed in the AT group (P< 0.0001).

Conclusions: Switching between abacavir and tenofovir based cART regimens did not alter platelet reactivity, however, switching from tenofovir to abacavir resulted in an increase in coagulation factors II-VII-X. It remains unclear whether these changes have any clinical significance.

BONE DISEASE (INCLUDING ISSUES RELATED TO VITAMIN D)

WEPEB09
VITAMIN D STATUS AT THERAPY INITIATION AND CD4+ T CELL COUNT RECOVERY IN HIV-INFECTED MEN IN THE MULTICENTER AIDS COHORT STUDY

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Background: There is substantial heterogeneity in both the rate of increase and plateau of CD4+ T cell count (CD4) in response to effective therapy (HAART) initiation. Since vitamin D can have immunoregulatory function, we investigated whether higher serum levels of 25 hydroxyvitamin D (25OHD) were associated with improved CD4 recovery following HAART initiation in HIV-infected men who have sex with men (MSM).

Methods: 25OHD level was measured following HAART initiation in 636 HIV-infected MSM with at least one post-HAART CD4 measurement. Anchoring at HAART start, CD4 over time was modeled using an exponential decay nonlinear mixed effects model with three random effects for the intercept, rate of increase and plateau. We assessed the effect of higher seasonally-adjusted post-HAART 25OHD levels on the rate of increase and plateau of CD4, controlling for age, pre-HAART CD4 nadir, and race.

Results: At HAART initiation, the median age was 42.3 years, the median pre-HAART CD4 nadir was 260 cells/ml, and 25.8% of men were of black race. The median post-HAART 25OHD level was 22.6 ng/ml (interquartile range [IQR]: 16.1, 29.9; 56.4 nmol/L) assessed at median time of 2.2 years (IQR: 1.7, 2.4) after initiation. The overall predicted median CD4 plateau was 523 cells/mm 3 (IQR: 343, 751) and the median time to CD4 plateau was 11.3 years. A higher post-HAART 25OHD level was significantly associated with both the rate of CD4 increase and plateau, with a 10% faster rate (p< 0.01) and a 3% higher plateau (p< 0.01) per 10 ng/ml (25 nmol/L) 25OHD. The Figure shows the expected difference in CD4 rebound comparing the 75%ile of 25OHD level in the cohort to the 25%ile.

Conclusions: Vitamin D levels may modestly augment the extent of quantitative CD4 increase following HAART initiation. Interventional trials are needed to determine whether supplementation at HAART initiation provides consequential clinical benefits.
WEPEB090
HIGH BACKGROUND OSTEOPENIA AND VITAMIN D DEFICIENCY PREVALENCE MAY ATTENUATE THE RELATIVE CONTRIBUTION OF HIV TO OSTEOPOROSIS IN ASIAN POPULATIONS

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Background: Low bone mineral density (BMD) is 3-4 times more prevalent in HIV-positive cohorts compared to HIV-negative controls. HIV-associated osteoporosis is a major concern in an aging Asian society such as Singapore, where new HIV diagnosis is often made in an older cohort or in patients with advanced stages of immunodeficiency. There is paucity of data on HIV-associated osteoporosis in Singapore and in other neighbouring Asian cohorts.

Methods: We conducted a cross-sectional study in the National University Hospital to examine prevalence and relevant risk factors for HIV-associated osteoporosis. BMD was measured by dual-energy x-ray absorptiometry (DXA) and normalized to a published Singapore reference range. An age-matched control group was included. Statistical methods used included Student t-test, chi-squared test, Fisher’s Exact Test and multiple logistic regression as appropriate.

Results: 104 HIV-positive patients and 52 HIV-negative volunteers were included. The prevalence of osteopenia and osteoporosis in the HIV-positive cohort was 51.9% and 11.5% respectively. Low BMD was significantly associated with low body mass index (BMI) in normal vs low BMD, mean±SD: (spine) 24.2 ± 4.7 vs 21.8 ± 3.5, p=0.016; (femur) 24.4 ± 0.9 vs 22.6 ± 3.7, p<0.003). There was no association between the traditional risk factors for low BMD and HIV clinical status with osteopenia/osteoporosis the use of tenofovir. Surprisingly, 54% of the age-matched healthy volunteers had low BMD. A high proportion of subjects in both the HIV-positive and healthy volunteer groups had insufficient dietary intake of calcium. 70.2% of the HIV-positive cohort (versus 67.3% in the healthy volunteer group) were 25-hydroxy vitamin D deficient (<30ng/L).

Conclusions: Although B cells are the dominant source of basal OPG, we demonstrate for the first time that T cells also significantly contribute to OPG levels, and this T cell OPG production is reduced in HIV infection. We further show that the expanded proportion of activated T cells in HIV-infected patients produced more RANKL, leading to an increased RANKL/OPG ratio. These changes create conditions favorable for, and may contribute to, enhanced bone loss in HIV infection.

WEPEB091
CONTRIBUTION OF T CELLS TO RANKL/OPG IMBALANCE AND BONE LOSS IN HIV INFECTION

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Background: HIV infection is associated with high rates of osteoporosis and bone fracture, which cause significant morbidity and mortality. Osteoporosis results from an imbalance in osteoclastic bone resorption relative to osteoblastic bone formation, leading to net bone loss. Osteoclast formation is regulated primarily by the ratio of the key osteoclastogenic cytokine receptor activator of nuclear factor-κB ligand (RANKL), to that of its physiological inhibitor, osteoprotegerin (OPG). We previously reported that HIV infection leads to a decline in B cell OPG and an increase in RANKL that correlates significantly with loss of bone mineral density (BMD). Although normal human primary CD4+ T cells can synthesize OPG in vitro, and activated T cells are an established source of RANKL in vivo, the contribution of T cells to RANKL/OPG imbalance in HIV infection has not been previously studied.

Methods: The study population comprised men and women ≥ 30 ≤ 50 years of age, 58 HIV-uninfected (48.3% Male and 82.5% Black) and 62 antiretroviral therapy-naive HIV-infected (69.4% Male and 88.7% Black). Baseline CD4 count 149 (62,235) [Mean (IQR, D3)] and %CD3 were analyzed for expression of intracellular T cell RANKL and OPG, and T cell proliferation (Ki-67 expression) and activation (CD27 and CD69 expression) were quantified by flow cytometry.

Results: Here we show a significant (p=0.0005) decrease in the percentage of OPG-producing T cells in HIV-infected individuals, and a strong trend toward increased T cell RANKL (p = 0.07). We also found significant associations between the ratio of RANKL/OPG and T cell activation (CD69 expression) in CD4+ (r = 0.32, p = 0.008) and CD8+ (r = 0.37, p < 0.0001) T cells.

Conclusions: Although B cells are the dominant source of basal OPG, we demonstrate for the first time that T cells also significantly contribute to OPG levels, and this T cell OPG production is reduced in HIV infection. We further show that the expanded proportion of activated T cells in HIV-infected patients produced more RANKL, leading to an increased RANKL/OPG ratio. These changes create conditions favorable for, and may contribute to, enhanced bone loss in HIV infection.
Background: Loss of kidney function is common in HIV-infection; early predictive markers of this condition are needed. Urinary Neutrophil Gelatinase-Associated Lipocalin (uNGAL) is a marker of tubular damage successfully employed in assessing acute kidney injury. Our study investigates if variation of uNGAL could be predictive of kidney function loss over time in HIV-patients.

Methods: Prospective observational study, mean follow up 192 weeks, patients from San Gerardo Hospital in Monza, Italy. Inclusion criteria: HIV infection, baseline eGFR >60 ml/min. Exclusion criteria: Diabetes, Hypertension, Dyslipidemia, pre-existing proteinuria. Urinary albumine to creatinine ratio (A/C), together with uNGAL and its standardized value (std-uNGAL: uNGAL/μCreatinine) were deter-

Results: Characteristics in Table 1. 89 patients enrolled; Median uNGAL (and its stan-
dardized value) significantly increased during follow up (from 10.3 ng/ml [6.5-15.2] at baseline to 18.1 ng/ml [10.2-32.8] at w48, p <0.001), while urinary A/C ratio did not show significant variation. After 192 weeks eGFR showed a significant worsening from baseline (median values of about 106, 96, 88 ml/min, at baseline week 48 and week 192, respectively. Spearman correlation coefficient was considered to evaluate potential associations between urinary and renal function markers.

Conclusions: uNGAL is not likely to be a predictive marker of eGFR decline over time in HIV positive individuals without classical risk factors for CKD. Intrinsic features of this marker make it probably unsuitable for monitoring chronic kidney disorders.
**HEPATIC COMPLICATIONS**

**WEPEB096**

**IMPACT OF ANTIRETROVIRAL THERAPY ON LIVER STIFFNESS AMONG ZAMBIAN ADULTS WITH HIV/HBV CO-INFECTION AND HIV MONO-INFECTION**

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**Background:** We assessed hepatic elastography change during 1-year of antiretroviral therapy (ART) among HIV-infected patients with and without viral hepatitis B (HBV) in Zambia.

**Methods:** HIV-infected ART eligible adults in Lusaka were enrolled in a cohort with baseline screening for HBV and hepatitis C co-infection, measurement of CD4+ count, and alanine transaminase (ALT). Liver stiffness was measured using transient elastography at ART initiation and 1-year. Using established thresholds and stratified by HBV status, we categorized liver stiffness by Metavir fibrosis stages. We described the distribution of liver disease over time and modeled the predictors of a reduction in liver disease by 1+ stage using multivariable regression.

**Results:** Among 799 patients enrolled, 41 (5.1%) died, 18 (2.2%) withdrew/transferred to another facility, and 49 (6.1%) were lost during the first year of follow-up. Of 691 in care at 1-year, 459 (399 HIV mono-infected and 60 HIV-HBV co-infected) had serial elastography and were analyzed. Median age was 34 years (interquartile range [IQR], 30-41). 53% were women, median CD4 was 240 cells/mm³ (IQR, 128-347), and 449 (97.2%) overall and all HIV-HBV patients received efavirenz+tenofovir+emtricitabine. No hepatitis C was found. At baseline, 2.3% of mono-infected and 8.3% of co-infected patients had liver stiffness consistent with cirrhosis. Among those with baseline F2+ measurements, stiffness reduced by 1+ stage in most HIV and HIV-HBV patients (Figure). Patients with WHO stage 3/4 (adjusted odds ratio [AOR], 1.84, 95% confidence interval [CI], 0.93-3.66), 50+ year-olds (AOR 5.32, 95%CI, 1.66-17.08), HBV patients (AOR 5.23, 95%CI, 2.51-10.90), and those with elevated baseline ALT (AOR, 3.04; 95%CI, 1.47-6.30) were more likely to have a 1-stage improvement.

**Conclusions:** Naringin ameliorated PI-induced impairment of β-cell dysfunction by reducing oxidative stress.

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**WEPEB097**

**NON-INVASIVE SERUM MARKERS SUGGEST BENEFIT FOR EARLY ART INITIATION ON LIVER FIBROSIS PROGRESSION WITHIN THE START STUDY**

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**Background:** Liver disease remains a major cause of morbidity in HIV infected individuals globally. The role of ART in limiting or contributing to liver fibrosis is unclear. The Strategic Timing of Antiretroviral Treatment (START) study presents an ideal opportunity to examine the effect of early or delayed ART on changes in parameters of liver health in this population.

**Methods:** Liver fibrosis was assessed using annual biomarkers by two non-invasive algorithms: the APRI and FIB-4 scores. All START participants with both serum markers available were included. Significant fibrosis (F≥2) was determined by an APRI score >0.5 or FIB-4>1.45. Prevalence and predictors of fibrosis were determined.

**Results:** 4582 participants were included (n=2274 immediate ART, n=2308 deferred). 3.7% and 2.8% were hepatitis C and B co-infected respectively. Median fibrosis score was 0.79 (IQR 0.58, 1.07) and median APRI was 0.27 (0.21, 0.37). Significant fibrosis was present at BL in 10.8% of participants by FIB-4 and 10.4% by APRI; 15.6% of participants had significant fibrosis by either test but only 5.6% by both tests. From adjusted models, predictors of significant fibrosis using FIB-4 were older age, male gender, black race, lower BMI, hepatitis co-infection, lower CD4 count, lower albumin, lower cholesterol, and history of liver disease, whereas for APRI older age, black race, high income country, hepatitis co-infection, lower CD4, higher bilirubin, lower LDL, and history of liver disease. In those with F0-1 at BL over 10,466 person years of follow-up, significant fibrosis using FIB-4 developed in 10.8% of participants (8.2% immediate arm, 13.5% deferred arm, p< 0.001), and by APRI in 14.8% of participants (13.3% immediate ARM, 16.3% deferred arm, p=0.006).

**Conclusions:** Noninvasive markers indicating the presence of liver fibrosis were present at BL in almost 10% of START participants. Although correlation between markers was not consistent, age, black race, hepatitis co-infection, lower CD4 and liver disease history were associated with both markers as predictors of fibrosis. Scores indicating the development of significant fibrosis were observed in 10-15% of participants over follow-up and more frequently in the deferred arm. Immediate ART initiation may reduce the incidence of liver fibrosis progression in HIV positive people with CD4<500.

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**WEPEB098**

**MRPREDUENCE AND COFACTORS OF NONALCOHOLIC FATTY LIVER DISEASE DIAGNOSED BY TRANSIENT ELASTOGRAPHY WITH CONTROLLED ATTENUATION PARAMETER IN HIV MONO-INFECTION**

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**Background:** Nonalcoholic fatty liver disease (NAFLD) is the most common liver disease in North America and a leading indication to liver transplantation. Due to chronic use of antiretrovirals, frequent metabolic comorbidities and chronic inflammation, HIV+ persons are at very high risk for NAFLD. Nevertheless, data on NAFLD in HIV mono-infection are scarce.

**Methods:** This was a prospective cohort study of HIV mono-infected adults without significant alcohol intake or confection with hepatitis B or C. We investigated the prevalence and cofactors of NAFLD and liver fibrosis by transient elastography (TE) and associated controlled attenuation parameter (CAP). Any grade (including >10% of hepatocytes), significant (>30%) and severe (>60%) NAFLD were defined as

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Background: In most countries, transplantation of organs from HIV-positive donors is illegal in order to prevent HIV transmission to the recipient. Since 2007, the Swiss Transplantation Law allows organ transplantation from an HIV-positive donor to an HIV-positive recipient independent of previous anti-HIV therapies. We report the first liver transplantation from an antiretroviral treatment (ART)-experienced HIV-positive deceased donor to an ART-experienced HIV-infected recipient in Switzerland.

Methods: A 53-year-old Caucasian male, diagnosed HIV-positive in 1986 (CDC, stage B3) and successfully treated since 1992 with an anti-HIV regimen (the latest being doravirine, bocca, raltegravir and enfuvirtide) died of a cerebellar haemorrhage October 2015. The donor was HIV-infected since 1989 (CDC, stage C3) and successfully treated since 1992 with an anti-HIV regimen (the latest being rilpivirine/tenofovir/efavirenz).

Results: The liver graft showed immediate function, and no medical or surgical complications occurred. The immunosuppressive regimen associated tacrolimus and rituximab was well tolerated. No rejection episodes occurred. Plasma HIV-RNA remained undetectable throughout the four-month follow-up.

Conclusions: We report here the first liver transplantation from an ART-experienced HIV+ donor to an ART-experienced HIV + recipient. Despite resistance mutations in both the donor and recipient's viruses the HIV-infection remained controlled. This encouraging observation should lead policy makers to lift the restriction limiting the transplantation of organs from ART-experienced HIV positive donors towards HIV-positive recipients.

WEPEB100
LIVER TOLERANCE OF INTEGRASE INHIBITORS-CONTAINING ANTIRETROVIRAL THERAPY IN FRANKFURT HIV COHORT

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Background: Liver toxicity is important in the selection of antiretroviral therapy and post marketing data of patients on dolutegravir-containing regimes are scarce.

Methods: Data from the HIV clinical cohorts at Goethe University, Frankfurt, Germany was evaluated for liver enzyme elevations in patients, who initiated dolutegravir (DTG, n=81), elvitegravir (EVG, n=11) or raltegravir (RAL, n=104) containing regimes prior to November, 1st 2015. 31 patients were HCV-coinfected. Study visits were at baseline, week 4, 12, 36 and 52. Statistics were done with non-parametrical tests (Wilcoxon-matched-pairs-test, Mann-Whitney-test, Kruskal-Wallis-test, Page’s-L-test, Friedman-test, Van-Elteren-test). P-values < 0.05 were considered as significant.

Results: Median Baseline ALT levels were 30.5 IU/ml (range 10-181) in the DTG group, 35 IU/ml (range 14-134) in the EVG group, and 28 IU/ml (8-210) in the RAL group (p>0.1). We observed a significant increase in ALT-levels in the DTG-group (Median change 2 IU/ml (r:19-39), p<0.05) between baseline and week 4. ALT-levels declined significantly (p=0.001) consecutively and there was no difference between baseline levels and at 52 weeks (Median 13 (21-93), p=0.1). No significant change in ALT values was observed in the RAL or EVG group (p=0.1) during all study timepoints up to week 52. Median Baseline GGT levels were 34 (r:10-206) in the DTG group, 31 (r:11-219) in the EVG group, and 35 (r:10-740) in the RAL group (p=0.1). During the course, there was a significant decrease observed for DTG and RAL-groups (p=0.01, p=0.001), and a not significant decreasing trend for EVG group (p=0.091). Compared to baseline, GGT-levels were significantly different after 52 weeks on therapy for DTG and RAL groups: median values were 26 (r:14-128) DTG group; p=0.036), 19 (r:10-320; EVG group; p=0.1) and 28 (r:9-264; RAL group; p=0.013). No significant difference in liver enzyme-levels between HCV-coinfected and HIV-monoinfected patients was observed (p>0.1) in any of the three treatment groups during 52 weeks of therapy.

Conclusions: The liver tolerability seems to be well on integrase inhibitors-containing therapies. Patients on dolutegravir are at an increased hazard of developing elevated ALT levels at week 4, that alleviated thereafter up to week 52.

WEPEB099
FIRST WORLD REPORT OF HIV-POSITIVE LIVER DONATION TO AN HIV-POSITIVE RECIPIENT: SHORT-TERM OUTCOME

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1Geneva University Hospitals, Division of Infectious Disease, HIV Unit, Geneva, Switzerland; 2Geneva University Hospitals, Division of Gastroentrology, Geneva, Switzerland; 3Geneva University Hospitals, Division of Infectious Disease, Transplantation Unit, Geneva, Switzerland; 4Private Practice, Geneva, Switzerland; 5Geneva University Hospitals, Division of Clinical Pathology, Geneva, Switzerland; 6Geneva University Hospitals, Virology Laboratory, Geneva, Switzerland; 7Private Practice, Lausanne, Switzerland; 8Geneva University Hospitals, Division of Digestive Surgery, Geneva, Switzerland; 9Geneva University Hospitals, Department of Surgery, Transplant Program, Geneva, Switzerland

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Background: In most countries, transplantation of organs from HIV-positive donors is illegal in order to prevent HIV transmission to the recipient. Since 2007, the Swiss Transplantation Law allows organ transplantation from an HIV-positive donor to an HIV-positive recipient independent of previous anti-HIV therapies. We report the first liver transplantation from an antiretroviral treatment (ART)-experienced HIV-positive deceased donor to an ART-experienced HIV-infected recipient in Switzerland.

Methods: A 53-year-old Caucasian male, diagnosed HIV-positive in 1986 (CDC, stage B3) and successfully treated since 1992 with an anti-HIV regimen (the latest being rilpivirine/tenofovir/emtricitabine for HIV and HIV infections), received an HIV-positive liver transplant (290.1 kg) from a donor after brain death in October 2015. The donor was HIV-infected since 1989 (CDC, stage C3) and successfully treated since 1992 with an anti-HIV regimen (the latest being rilpivirine/tenofovir/emtricitabine).

Results: Any grade NAFLD was BMI >25 kg/m2, and predictors of significant liver fibrosis were BMI > 25 kg/m2 and diabetes, whereas black ethnicity was found to be protective.

Conclusions: NAFLD diagnosed by TE with CAP is frequent in HIV mono-infected persons, particularly in those with obesity. Significant liver fibrosis is also a frequent occurrence, especially in those with obesity and diabetes. Screening for NAFLD and liver fibrosis with non-invasive methods should be implemented in this population with the ultimate aim of establishing early interventions and preventing long-term complications of liver disease.

WEPEB101
DIFFERENCES IN HEALTH-RELATED QUALITY OF LIFE HIGHLIGHT THE DIFFERENT EMPHASIS OF 3 FRATALY INSTRUMENTS IN OLDER AUSTRALIAN MEN LIVING WITH HIV

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Background: As the Australian HIV population ages, there is increasing recognition of the need to identify frailty, a condition of physical and psycho-social vulnerability. The prevalence of frailty in the Australian HIV population is unknown. Thus, the aim of this study was to compare three different frailty instruments and to measure health-related quality of life (HRQOL), in order to better characterise the utility of each tool in people living with HIV (PHIV).

Methods: HIV+ men aged over 50-years, on ART for >6 months were enrolled between March and November 2015 in a Melbourne HIV referral centre. Frailty was assessed using the Frailty Phenotype (FP), the Frailty Index (FI), and the Edmonton Frail Scale (EFS). Participants were assessed on standard quality of life scales (RAND 36-Item Health Survey 1.0/5F-36). The distribution of frail subjects in relation to physical and mental component scores were visualised.
Results: Ninety three study participants were evaluated: median age 60 years; 95% Caucasian; 92% had undetectable viral load. Using the FP, 11% were frail, 53% pre-frail and 37% robust. Median FI score was 0.11, with 23% frail, 77% non-frail. Using the EFS, 12% were frail, 88% non-frail. All frailty instruments correlated with all subscales and components of HRQOL. The FP was skewed towards lower physical component summary scores (PCS), but high mental component summary scores (MCS). The FI identified a frailty that has a balanced impact on both physical and mental components quality of life, and is designed to be clinically implemented. Regardless of frailty instrument, frailty is associated with poor HRQOL. Each instrument is significantly different, however, consensus on the definition of frailty is required to adequately manage older PLHIV with chronic disease.

Conclusions: This the first reported prevalence of frailty in Australian PLHIV. The FP conceptualises frailty in more physical terms, the FI frames frailty in varied terms, and the EFS describes a frailty that has a balanced impact on both physical and mental components quality of life, and is designed to be clinically implemented. Regardless of frailty instrument, frailty is associated with poor HRQOL. Each instrument is significantly different, however, consensus on the definition of frailty is required to adequately manage older PLHIV with chronic disease.

WEPB102

FRAILTY IN MIDDLE-AGED AND OLDER HIV-INFECTED INDIVIDUALS IN CHINA

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Background: Increasing evidence suggests that HIV infection is associated with early occurrence of frailty. We determined the prevalence and predictors of frailty in a sample of middle-aged and older HIV-infected individuals in China.

Methods: This study was conducted in Taizhou prefecture, Zhejiang province, China. 345 HIV-infected participants over 40 years from the National Observational HIV Cohort were consecutively enrolled between June 2014 and May 2015, and compared with 345 age-, gender- and education-frequency-matched HIV-uninfected individuals. Frailty was assessed by the Onen modified version of Fried criteria (weight loss, low physical activity, exhaustion, weak grip strength, and slow walking time). Presence of at least three out of five criteria was defined as frailty and presence of 1-2 was defined as prefrailty. Multivariable ordinal logistic regression was used to investigate the factors associated with prefrailty/frailty.

Results: HIV-infected individuals were more likely to be frail (6.1% vs. 0.6%) and prefrail (28.1% vs. 11.9%) than uninfected individuals (P trend < 0.01), and this association remained statistically significantly after adjustment for confounding variables (OR=2.26; 95% CI: 1.43-3.56). Within the HIV-infected group, older age (OR=1.36 per 10 years increase; 95% CI:1.03-1.78), current BMI < 18.5 kg/m² (vs. 18.5-24.9 kg/m²) (OR=2.46; 95% CI: 1.09-5.59), more depressive symptoms (OR=1.28; 95% CI:1.09-1.50), having one or more comorbidities (OR=3.03; 1.71-5.35), longer duration since HIV diagnosis (OR=1.13 per 1 year increase; 95% CI:1.02-1.24), and having HIV-associated neurocognitive disorder using the International HIV Dementia Scale (OR=1.92; 95% CI:1.12-3.30) were independently associated with higher risk of prefrail/frailty whereas current BMI ≥ 25 kg/m² (OR=0.44; 95% CI:0.21-0.92) and regular exercise (OR=0.53; 95% CI:0.28-0.99) were associated with lower risk of prefrail/frailty.

Conclusions: HIV infection is associated with prefrailty/frailty in middle-aged and older HIV-infected individuals. Our findings suggest that longer duration of HIV infection increases the risk of frailty, but being overweight/obesity provides protective effect against frailty for HIV-infected individuals.

WEPB103

HIGH PREVALENCE OF GERIATIC SYNDROMES IN YOUNG TREATED HIV-INFECTED INDIVIDUALS

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Background: Geriatric syndromes (GS) represent multiple conditions which reflect the declining function of individuals and are associated with poor health outcomes. Though GS are generally assessed in the elderly, determinants of GS including sub-stance abuse, social isolation, multi-morbidity and chronic inflammation are prevalent even in young adults living with HIV. Here, we characterised the prevalence and risk factors associated with GS in a cohort of ART-treated HIV-infected individuals with a diverse age-range.

Methods: Participants were selected among HIV-infected individuals attending the University Malaya Medical Centre, Malaysia. All participants were aged >25 years, had undetectable HIV RNA for at least 12 months and no acute illness at recruitment. Participants answered validated questionnaires and performed biochemical screening and physical examinations at a research clinic where a range of GS were assessed. Both clinical and socio-behavioural factors were explored using multivariate analysis to determine risk factors associated with GS expressed as a composite outcome (total score>11).

Results: We analysed 257 individuals with a median(IQR) age of 43 (37-50) years, 81% male, 72% Chinese, median(IQR) CD4 T-cell count and duration on ART were 536 (394-736) cells/ml and 5 (3-10) years, respectively. The prevalence of GS are as shown below:

<table>
<thead>
<tr>
<th>Geriatric Syndromes (GS)</th>
<th>Prevalence, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malnourished (Mini Nutritional Assessment)</td>
<td>3.1%</td>
</tr>
<tr>
<td>Falls (Fried phenotype)</td>
<td>5.0%</td>
</tr>
<tr>
<td>Malaise</td>
<td>0.8%</td>
</tr>
<tr>
<td>Hearing impairment, low vision</td>
<td>6.0%</td>
</tr>
<tr>
<td>Loss of appetite, weight loss</td>
<td>7.3%</td>
</tr>
<tr>
<td>Falls (Falls questionnaire)</td>
<td>8.2%</td>
</tr>
<tr>
<td>Urinary incontinence (self reported)</td>
<td>10.0%</td>
</tr>
<tr>
<td>Functional disability (IADL)</td>
<td>19.1%</td>
</tr>
<tr>
<td>Multimorbidity</td>
<td>21.8%</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>22.0%</td>
</tr>
<tr>
<td>Depression (GDS-21)</td>
<td>36.1%</td>
</tr>
<tr>
<td>Cognitive impairment (MOCA)</td>
<td>44.6%</td>
</tr>
</tbody>
</table>

[Prevalence of geriatric syndromes (GS) among ART-treated HIV infected individuals]

GS was evident even in young participants with 46% reporting two or more GS among 24-40 years, 64% among 41-55 years, 68% among 56-70 years, 100% among >71 years. Increasing GS correlated with increased risk of mortality (VACS index, p<0.001), poorer quality of life scores (p<0.001) and increased healthcare visits (past 12 months), (p<0.001). In multivariate analysis, risk factors associated with increasing GS included increasing age (p<0.001), history of AIDS-defining illness (p=0.034), low physical activity (p=0.034) and social isolation (p=0.028).

Conclusions: We found a high prevalence of GS in young HIV-infected individuals in our setting with both socio-behavioural and clinical factors contributing to its presence.

IMMUNE RECONSTITUTION DISORDERS / IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (IRIS)

WEPB104

IRON TRANSPORT BIOMARKERS ARE ASSOCIATED WITH HIV-ASSOCIATED IMMUNE ACTIVATION AND IMMUNE RECONSTITUTION ON ANTIRETROVIRAL THERAPY

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Background: Persistent immune activation, despite antiretroviral therapy (ART), and the CD4 nadir may contribute to HIV-associated complications, including neurocognitive impairment, cardiovascular and kidney disease. We hypothesized that HIV-induced changes in iron transport may affect viral replication, immune activation, and CD4 recovery in HIV-infected individuals and examined associations of biomarkers of iron transport and stores with immune activation and immune recovery on ART.

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WEPEB 105
THE ASSOCIATION OF HIV/HAART WITH CLINICAL AND BIOCHEMICAL INDICES IN AFRICAN WOMEN WITH PREECLAMPSIA

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Background: HIV/AIDS and pre-eclampsia contribute significantly to morbidity and mortality worldwide. However, the relationship between pre-eclampsia, HIV and HAART has not been adequately studied and remains controversial. Our objective was to determine whether the clinical and biochemical changes associated with pre-eclampsia are significantly altered in the presence of HIV infection and treatment with HAART.

Methods: Ninety eight women (45 HIV infected pre-eclamptic women on HAART, 53 uninfected pre-eclamptic women) were recruited and followed until delivery at a large South African hospital. A control group (45 normotensive HIV infected, 50 normotenstive uninfected) was also recruited for comparison. Demographic data, clinical features, laboratory parameters and maternal and fetal outcomes were analysed.

Results: There were 270 exposed and 52 unexposed participants by week 144. Mean eGFR declined for both TDF and non-TDF groups from second-line initiation to week 144 (~13.8ml/min/1.73m² vs. -13.6 ml/min/1.73m², p=0.97). Incidence rate of renal dysfunction was 28.09% (CI 18.8 to 41.8) per1000 person-years for exposed participants and 24.2 (95% CI 10.7 to 58.1) per 1000 person-years for non-exposed. Unadjusted HR for TDF vs non-TDF was 1.16 (95% CI 0.44 to 3.04, p=0.76). After adjusting for age, infectious and non infectious co-morbidities, the HR for association between exposure and outcome was 1.30 (95% CI 0.48 to 3.49, p=0.52).

Conclusions: No clinically or statistically significant effect of TDF+PI/r vs non-TDF+PI/r regimen renal dysfunction was observed.

OTHER ADVERSE REACTIONS AND COMPLICATIONS OF ART

WEPEB 106
TENOFOVIR ASSOCIATED RENAL DYSFUNCTION IN AFRICAN HIV PATIENTS ON RITONAVIR BOOSTED PROTEASE INHIBITOR REGIMEN: A RETROSPECTIVE MULTICENTER STUDY

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Background: Tenofovir disoproxil fumarate (TDF) and ritonavir boosted protease inhibitors (PI/r) are frequently used together as standard second-line therapy in Africa. TDF may cause renal toxicity, especially when given with a PI in second-line therapy. We aimed to determine whether a TDF plus PI/r regimen was associated with greater decline in renal function compared to non-TDF and PI/r among African patients on second-line therapy.

Methods: We performed a retrospective cohort study in patients randomized to the PI/r plus nucleoside reverse transcriptase inhibitors (NRTIs) arm of the Europe-Africa Research Network for Evaluation of Second-line Therapy (EARNEST) trial. The NRTIs (2 to 3) were clinician-selected without use of resistance testing. Exposure was defined as use of a TDF-containing NRTI regimen; the comparison group was those on a non-TDF regimen (all given with lopinavir/ritonavir). The primary outcome of interest was renal dysfunction defined as severe creatinine clearance (Cockcroft-Gault formula) < 60ml/min/1.73m² or a 25% decline in creatinine clearance from baseline (if baseline < 60ml/min/1.73m²) occurring up to 144 weeks of follow-up. Univariate and multivariate generalized estimating equations and Cox proportional hazards regression analysis were used to test model cumulative creatinine clearance changes over time and the association between exposure and outcome after adjusting for age and comorbidities. The cumulative incidence of renal dysfunction was calculated using life table methods.

Results: There were 270 exposed and 52 unexposed participants by week 144. Mean eGFR declined for both TDF and non-TDF groups from second-line initiation to week 144 (~13.8ml/min/1.73m² vs. -13.6 ml/min/1.73m², p=0.97). Incidence rate of renal dysfunction was 28.09% (95% CI 18.8 to 41.8) per 1000 person-years for exposed participants and 24.2 (95% CI 10.7 to 58.1) per 1000 person-years for non-exposed. Unadjusted HR for TDF vs non-TDF was 1.16 (95% CI 0.44 to 3.04, p=0.76). After adjusting for age, infectious and non infectious co-morbidities, the HR for association between exposure and outcome was 1.30 (95% CI 0.48 to 3.49, p=0.52).

Conclusions: No clinically or statistically significant effect of TDF+PI/r vs non-TDF+PI/r regimen renal dysfunction was observed.

OTHER NON-COMMUNICABLE DISEASES (INCLUDING SCREENING)

WEPEB 107
PREVALENCE AND CHARACTERISTICS OF THE OVERLAPPING EPIDEMICS OF HIV AND NON-COMMUNICABLE DISEASES (NCDs) IN RURAL KWAZULU NATAL, SOUTH AFRICA
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1Human Sciences Research Council of South Africa, HAST, Durban, South Africa, 2University of the Witwatersrand, MRC/WITS Developmental Pathways for Health Research Unit, Johannesburg, South Africa, 3Human Sciences Research Council of South Africa, HSD, Durban, South Africa

Background: Sub-Saharan African countries face dual epidemics of HIV and chronic non-communicable diseases (NCDs). HIV is a risk factor for cardiovascular disease and is associated with depression, potentially driving a triple burden of chronic diseases (HIV, NCDs and mental illness). However, the community prevalence of NCDs and mental illness is not well characterized in high HIV prevalence settings, such as in South Africa.

Methods: We conducted a home based HIV counselling and testing study in rural and peri-urban settlements in Vulindlela, KwaZulu Natal, South Africa between November 2011 and June 2012. 545 contiguous households were approached and all adults over the age of 18 were offered an HIV test. Follow-up visits were conducted in January 2015 to all consented households to conduct depression, obesity, blood glucose, cholesterol and blood pressure screening using point-of-care tests. The Patient Health Questionnaire (PHQ-9) was used to screen for depression. Logistic regression was used to compare the outcomes of obesity, hypertension, hypercholesterolaemia, diabetes, and depression by HIV status and demographic variables.
Results: Thirty months after an initial visit, 587 (46%) of 1272 participants were located and screened. Two thirds were female (69%) and 33% were HIV positive. Prevalence of NCDs were high; 71% were overweight (BMI 25 to 29.9) or obese (BMI > 30), 38% with glucose > 5.8mmol/L, 33% with stage 1 or 2 elevated blood pressures (define stage 1 & stage 2 BPs), low density cholesterol > 5.2mmol/L (46%) and 37% depression (PHQ > 10). Controlling for age, gender, socio-economic status and education, HIV negative individuals were nearly twice as likely to both have hypertension (RR 0.598, p < 0.05) and elevated glucose (RR 0.566, p < 0.01). Depression, elevated body mass index and cholesterol did not vary significantly by HIV status.

Conclusions: In this community-based sample of adults in KwaZulu-Natal, HIV and NCDs were prevalent; approximately one-third had HIV, hypertension, diabetes or depression and two-thirds were overweight or obese. Hypertension and elevated glucose were more common in HIV negative persons than HIV positive persons. Community HIV testing programs provide an opportunity for early detection and linkage to care for NCDs and HIV.

**WEPEB108**

**OCULAR CONDITIONS ARE MORE COMMON AMONG HIV-INFECTED INDIVIDUALS USING ART FOR AN EXTENDED PERIOD OF TIME**

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Background: HIV infection may directly and indirectly affect the eye. Infectious ocular disease associated with low CD4 count prior to antiretroviral therapy (ART) is relatively well documented, but limited data exist on occurrence of ocular conditions in HIV-infected patients using ART for extended period of time.

Methods: We recruited 342 adult participants visiting healthcare facilities in rural South Africa for HIV-related services, i.e. HIV test, pre-ART care, ART initiation or collection. We assessed occurrence of ocular conditions in four groups of individuals: HIV-uninfected (n=100), HIV-infected but not on ART (n=116), HIV-infected on ART < 12 months (n=56) and HIV-infected on ART >12 months (n=165). Demographic and clinical data were collected and full ophthalmic examination including fundoscopy was conducted. Occurrence of ocular conditions was compared between these four groups; age-adjusted odds ratio (OR) was calculated.

Results: HIV-infected individuals reported eye complaints more often (OR=1.9; 95% CI: 1.1-3.2; P=0.020) than those without HIV-infection and were more likely to have an ocular condition on examination (OR=3.1; 1.7-7.7; P< 0.001). Conditions affecting the external eye, anterior chamber or posterior chamber, but not the neuro-ophthalmic segment, were significantly more common among HIV-infected individuals (Table 1).

**Table 1**

<table>
<thead>
<tr>
<th>HIV-infected on ART</th>
<th>No HIV infection</th>
<th>OR (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Eye</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 (17%)</td>
<td>7 (7%)</td>
<td>2.8 (1.6-6.6)</td>
<td>0.015</td>
</tr>
<tr>
<td>Anterior Chamber</td>
<td>79 (23%)</td>
<td>18 (17%)</td>
<td>6.5 (2.8-50)</td>
</tr>
<tr>
<td>Posterior Chamber</td>
<td>58 (24%)</td>
<td>10 (10%)</td>
<td>3.1 (1.5-6.4)</td>
</tr>
<tr>
<td>Neuro-ophthalmic</td>
<td>8 (8%)</td>
<td>25 (11%)</td>
<td></td>
</tr>
</tbody>
</table>

Clinically detectable cataract was significantly more common in HIV-infected individuals on ART (52% vs. 16%; OR=4.3; 95% CI: 1.9-9.5, P< 0.001) than those without HIV-infection, especially among individuals using ART for more than 3 years (57%). Participants using ART for more than 3 years were more likely to have posterior eye segment conditions than those on ART for less than 12 months (13 vs. 30%; OR=2.6; 1.0-5.0; P=0.047); in particular HIV retinopathy (1.4 vs. 1%).

Conclusions: Ocular conditions are more common among HIV-infected individuals on ART; the posterior segment is particularly affected in those using ART for extended period of time. Regular eye screening including fundoscopy may be indicated to prevent visual impairment in these individuals.

**WEPEB109**

**PREVALENCE AND CLINICAL PHENOTYPE OF ASTHMA IN HIV-INFECTED ADULTS ON ART**

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Background: Little is known about the prevalence and clinical phenotype of asthma in the HIV-infected population. Here, we estimated asthma prevalence in HIV-infected persons and describe the asthma phenotype in an HIV-infected cohort at Duke University Medical Center (DUMC).

Methods: Using electronic health record-based algorithms, we estimated asthma prevalence at DUMC, Durham, North Carolina. Additionally, we enrolled 29 HIV-infected asthmatic subjects on ART and 33 HIV-uninfected asthmatic controls for clinical phenotyping. Study participants were ≥18 years old, ≤ 10 pack year history of smoking, no history of respiratory infection/antibiotic use in last 30 days, no underlying illness with altered lung function, and no use of systemic steroids in the last two weeks. Clinical phenotyping included asthma questionnaires (ACQ, SNOT22), FeNO, spirometry, methacholine challenge, and Phadiotop testing for atopic testing.

Results: Asthma prevalence ranged from 5.2%-12.5% in HIV-infected and 4.0%-6.8% in HIV-uninfected persons. 29 HIV-infected and 33 HIV-uninfected asthmatics were enrolled for phenotyping. Demographics were similar except for more HIV-uninfected females and more HIV-infected persons with a smoking history. More HIV-uninfected asthmatics were receiving asthma treatment with combination inhaled corticosteroids/long-acting beta agonists. No significant differences in Phadiotop testing or the SNOT22 survey were seen. Although airway physiology (% FEV1, FEV1/FVC% ratio, methacholine PC20, and FeNO) was similar between our two groups, HIV-infected asthmatics appear to have worse asthma control as depicted by an ACQ of 1.6. However, gender and use of asthma medications may have altered our clinical profiles. Further evaluation is needed to explain these differences.

**Table 2**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>HIV-infected (n=29)</th>
<th>HIV-uninfected (n=33)</th>
<th>Total (n=62)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year, median)</td>
<td>43.9</td>
<td>42.8</td>
<td>43.5</td>
<td>0.7765</td>
</tr>
<tr>
<td>Female</td>
<td>10/29 (34.5%)</td>
<td>28/32 (87.5%)</td>
<td>56/61 (62.3%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>African-American</td>
<td>23/29 (75.9%)</td>
<td>23/32 (71.9%)</td>
<td>46/61 (73.8%)</td>
<td>0.881</td>
</tr>
<tr>
<td>Smoker ever</td>
<td>13/29 (44.8%)</td>
<td>7/32 (21.9%)</td>
<td>20/61 (32.8%)</td>
<td>0.057</td>
</tr>
</tbody>
</table>

**Table 3**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>HIV-infected (n=29)</th>
<th>HIV-uninfected (n=33)</th>
<th>Total (n=62)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEV1 (% predicted); median</td>
<td>88</td>
<td>85</td>
<td>87</td>
<td>0.7281</td>
</tr>
<tr>
<td>FEV1/FVC%; median</td>
<td>0.79</td>
<td>0.76</td>
<td>0.77</td>
<td>0.5386</td>
</tr>
<tr>
<td>Methacholine PC20; median</td>
<td>0.44</td>
<td>0.34</td>
<td>0.39</td>
<td>0.534</td>
</tr>
<tr>
<td>FeNO (avg ppb); median</td>
<td>22.25</td>
<td>19.5</td>
<td>20</td>
<td>0.7515</td>
</tr>
<tr>
<td>Phadiotop positive</td>
<td>21/27 (82.1%)</td>
<td>17/29 (58.6%)</td>
<td>38/56 (68.5%)</td>
<td>0.421</td>
</tr>
<tr>
<td>HCO3 median; median</td>
<td>1.57</td>
<td>1.14</td>
<td>1.42</td>
<td>0.2053</td>
</tr>
<tr>
<td>SNOT22 score; median</td>
<td>24.5</td>
<td>16</td>
<td>22</td>
<td>0.8145</td>
</tr>
<tr>
<td>Taking ICS/LABA</td>
<td>5 (17%)</td>
<td>13 (39%)</td>
<td>18 (29%)</td>
<td></td>
</tr>
</tbody>
</table>

Clinical phenotype of HIV-infected asthmatics

Conclusions: Asthma is more prevalent in HIV-infected than HIV-uninfected persons followed at DUMC. Although there were no differences in airway physiology between our two groups, HIV-infected asthmatics appear to have worse asthma control as depicted by an ACQ of 1.6. However, gender and use of asthma medications may have altered our clinical profiles. Further evaluation is needed to explain these differences.
WEPEB110
COOKING FUEL AND RESPIRATORY SYMPTOMS AMONG PEOPLE LIVING WITH HIV IN RURAL UGANDA

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Background: Household air pollution from biomass fuels is a leading cause of chronic respiratory disease in resource-limited settings. HIV infection is independently associated with chronic respiratory symptoms, but little is known about relationships between household air pollution and respiratory symptoms among people with HIV.

Methods: We analyzed data from the Uganda AIDS Rural Treatment Outcomes Study, a longitudinal cohort of HIV infected persons taking antiretroviral therapy. Participants completed quarterly study visits for CD4 count and viral load, and sociodemographics and physical health questionnaires. Primary outcomes included 1) cough or dyspnea in the last 30 days and 2) chronic cough (>4 weeks).

Results: Primary exposure was cooking fuel type, and was categorized as charcoal or firewood, which accounted for 99% of study visits. Logistic regression models were fit using generalized estimating equations to detect associations between the respiratory symptoms and cooking fuel type. Separate models were used for men and women, as women typically do the majority of cooking.

Conclusions: Cooking with firewood as compared to charcoal is independently associated with increased odds of chronic cough among women (AOR 1.41, CI 1.00 - 1.99, p 0.047), compared to cooking with charcoal. No association was seen between respiratory symptoms and cooking fuel type among men.

WEPEB111
IMMUNOPHENOTYPIC CHARACTERIZATION OF HIV-INFECTED ADULTS WITH ASTHMA

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Background: While HIV-infected persons are known to have accelerated rates of emphysema/COPD, the clinical and immune phenotype in HIV-infected asthmatics has not been well described. Given asthma management is complicated by disease heterogeneity, we performed prospective immunophenotyping of HIV-infected asthmatics on ART to elucidate possible immune mechanisms driving asthma in this population.

Methods: HIV-infected and uninfected non-smoking asthmatics were recruited at Duke University Medical Center, Durham, North Carolina. Participants underwent clinical and immunological phenotyping, including FeNO, spirometry, DLCO, metha-

choline challenge, Phadiotop assays, and induced sputum and plasma sampling for multiplexed cytokine analyses.

Results: 20 HIV-infected and 33 HIV-uninfected asthmatic participants were enrolled. Other than more males and greater smoking history among HIV-infected participants, no significant differences in pulmonary measurements or Phadiotop positivity were noted. HIV-infected asthmatics demonstrated an atopic, eosinophilic phenotype not dependent on canonical Th2 cytokines (IL-4, IL-5, and IL-13), whereas HIV-uninfected asthmatics demonstrated a neutrophilic-predominant phenotype. HIV-infected asthmatics had significantly higher levels of β-isoprostanes, a reliable noninvasive biomarker of oxidative stress in asthma, suggesting airway inflammation.
PHARMACOKINETICS AND OUTCOMES OF ART IN WOMEN DURING AND AFTER PREGNANCY

WEPEB112
PRE-CONCEPTION SUPPORT FOR COUPLES LIVING WITH HIV: A STRATEGY TO REDUCE MOTHER TO CHILD HIV TRANSMISSION (MTCT) AT SENKATANA ANTIRETROVIRAL THERAPY (ART) CLINIC IN MASERU, LESOTHO

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Background: Senkata is an ART clinic with more than 4000 women on treatment, of which, 50% are young adults requiring reproductive health services. Sexual and reproductive health services (SRH) are an integral part of comprehensive HIV services, yet many clinics do not offer integrated reproductive health and HIV services. In 2012, EGRAF introduced integrated SRH into HIV service delivery to reduce MTCT.

Description: As part of routine HIV services, counseling on reproductive health services was provided to all HIV infected young adults, including discussions on the desire to have children and contraception. Preconception care included: health education on intended and safer pregnancy, safer sex, ART adherence counselling, and couples counselling. Couples that desired to have children had close Viral load monitoring to ensure suppression. standard Antenatal, postnatal, early infant diagnosis (EID) and child welfare services were provided.

Lessons learned: From October 2012-September 2015 there were 230 pregnancies and 116 deliveries. The mean age of mothers was 30.65 years and mean duration of treatment was 2.9 years. Mean gestational age at enrollment to antenatal care was 18.81 weeks. Mean CD4 at time of conception was 507; 95% were on first line regimens, while 5% were on second line. Viral loads were undetectable in 88% of cases. Table 1 below shows DNA-PCR and HIV antibody results at different time point for the infants born into this program.

Table 1: DNA-PCR and HIV antibody results at different time point

<table>
<thead>
<tr>
<th>Infant age</th>
<th>Number of HIV tests (DNA PCR or rapid tests)</th>
<th>HIV-negative infants</th>
<th>HIV-positive infants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8 weeks</td>
<td>105</td>
<td>105</td>
<td>0</td>
<td>105</td>
</tr>
<tr>
<td>14 weeks</td>
<td>87</td>
<td>87</td>
<td>0</td>
<td>87</td>
</tr>
<tr>
<td>9 months</td>
<td>59*</td>
<td>59</td>
<td>0</td>
<td>59</td>
</tr>
<tr>
<td>18 months</td>
<td>7**</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

(*59 children had rapid test at 9 months of which 4 tested HIV-positive but were subsequently HIV-negative on DNA PCR. **All 7 children were tested by rapid test.)

Methods: We reviewed all deliveries of women living with HIV who received care at our hospital from 2000 to 2015. We recorded maternal VL, CD4 count, years since diagnosis, antiretroviral treatment, demographics and social history. These categorical variables were assessed using regression analysis and Pearson’s Chi-Square test.

Results: Of 183 HIV-infected pregnant women, 63% were Black, 36% Hispanic and 1% White. The majority (58%) delivered by cesarean. 57% had been diagnosed within 5 years of pregnancy, 38% had been infected for more than 10 years, 7.1% were perinatally infected, and 3.3% had < 1500g infants. In early pregnancy, 16% had CD4 < 200 and 42% had VL >1000. By delivery, 13% had low CD4 < 200 and 15% had VL >1000. 42% of perinatally infected women had LBW (p=0.02). One in six (16%, 95% CI 11-23%) newborns weighed < 2500g. 82.8% of LBW were delivered prematurely (p=0.001), with correlation to low CD4 at birth (7.7%, p=0.003).

At one year, CD4 and VL were available for 132 (72%) women. CD4 < 200 was found in 11%, while the % of women with VL >1000 more than doubled to 36%. Multivariate regression analysis showed a significant association of LBW and years since diagnosis (p = 0.04); VL at first visit and 1 year postpartum (p=0.001; R² = 0.752).

Conclusions: LBW was significantly associated with years since HIV diagnosis, maternal immunodeficiency (CD4< 200) and suboptimal control of HIV disease at the first prenatal visit. Additionally, LBW was a risk factor for loss of maternal viral suppression during the first postpartum year. We suggest that maternal and fetal immune responses to suboptimally controlled maternal HIV disease may play an important role in fetal growth and preterm delivery of HIV-exposed uninfected infants.

WEPEB114
ACCEPTABILITY OF SHORT MESSAGING SERVICE (SMS) USE AMONGST TUBERCULOSIS (TB) AND TB-HIV CO-INFECTED PARTICIPANTS IN THE IMPRESS RETREATMENT SUCCESS (IMPRESS) STUDY

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Background: The use of mobile technology in resource-limited settings is rapidly increasing and cell phone-based interventions have great potential for use in healthcare. SMS technology was implemented within the IMPRESS Study, to assess acceptability and feasibility amongst clinical trial participants in Durban, South Africa.

Methods: From May 2014 to October 2015, all participants that consented to participate had their cell phone numbers captured on the Communicate® system and SMS campaigns were generated in the form of appointment reminders, missed appointment SMS, motivational SMS, and pharmacokinetic visit instructions. Patients were interviewed at enrolment and at each follow up visit to assess acceptability.

Results: Uptake of mobile technology use in the study was high; of the 195 participants that enrolled in the IMPRESS Study, 181 (92.8%) consented to receive SMS of whom 131 (72.4%) were TB-HIV co-infected. Reasons for refusal (n=14; 7.7%) included not having a cellphone (n=2), sharing cellphone (n=2), didn’t use SMS’s (n=2), didn’t need SMS reminders (n=2), didn’t want child to read SMS’s (n=1), didn’t like SMS (n=1), not receiving SMS’s (n=2), didn’t want to read SMS’s (n=1), didn’t like SMS’s (n=1), didn’t need SMS reminders (n=1), didn’t want child to read SMS’s (n=1), didn’t like SMS’s (n=1), didn’t need SMS reminders (n=1), didn’t want to read SMS’s (n=1). Thus far, 2 patients have opted out (no longer needs reminders; didn’t want child to read SMS’s), 2 patients have opted out (no longer needs reminders; didn’t want child to read SMS’s, didn’t like SMS’s). The preliminary findings suggest that the use of mobile technology in a format accessible on all basic cellphone types, such as SMS, is an acceptable and feasible intervention to employ amongst TB patients. Potential social harms that may result in inadvertent disclosure of disease status, although not reported, are a concern for SMS receivers. Ongoing verification of cellphone numbers is crucial to ensure successful SMS delivery. For future application system design should be compatible with basic and smartphones.

OTHER ISSUES RELATED TO PREGNANCY

WEPEB113
LOW BIRTH WEIGHT PREDICTS POST-PARTUM DETERIORATION IN VIROLOGIC CONTROL AMONG HIV-1 INFECTED WOMEN IN BRONX, NY, USA

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2Barry University, Professional and Career Education, Miami Shores, United States
3Albany Einstein College of Medicine and Montefiore Medical Center, Department of Obstetrics & Gynecology and Women’s Health, Bronx, United States

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Background: The prevalence of low birth weight < 2500g (LBW) is higher among HIV-infected infants than in HIV-exposed, uninfected newborns. HIV-exposed uninfected infants are still more likely to weigh < 2500g than HIV-unexposed infants. We studied the relationship between LBW, maternal HIV-viremia and CD4 count at the first prenatal visit, at delivery and at one year post-partum in our high seroprevalence inner city urban population.

Methods: We reviewed all deliveries of women living with HIV who received care at our hospital from 2000 to 2015. We recorded maternal VL, CD4 count, years since diagnosis, antiretroviral treatment, demographics and social history. These categorical variables were assessed using regression analysis and Pearson’s Chi-Square test.

Results: Of 183 HIV-infected pregnant women, 63% were Black, 36% Hispanic and 1% White. The majority (58%) delivered by cesarean. 57% had been diagnosed within 5 years of pregnancy, 38% had been infected for more than 10 years, 7.1% were perinatally infected, and 3.3% had < 1500g infants. In early pregnancy, 16% had CD4 < 200 and 42% had VL >1000. By delivery, 13% had low CD4 < 200 and 15% had VL >1000. 42% of perinatally infected women had LBW (p=0.02). One in six (16%, 95% CI 11-23%) newborns weighed < 2500g. 82.8% of LBW were delivered prematurely (p=0.001), with correlation to low CD4 at birth (7.7%, p=0.003).

At one year, CD4 and VL were available for 132 (72%) women. CD4 < 200 was found in 11%, while the % of women with VL >1000 more than doubled to 36%. Multivariate regression analysis showed a significant association of LBW and years since diagnosis (p = 0.04); VL at first visit and 1 year postpartum (p=0.001; R² = 0.752).

Conclusions: LBW was significantly associated with years since HIV diagnosis, maternal immunodeficiency (CD4< 200) and suboptimal control of HIV disease at the first prenatal visit. Additionally, LBW was a risk factor for loss of maternal viral suppression during the first postpartum year. We suggest that maternal and fetal immune responses to suboptimally controlled maternal HIV disease may play an important role in fetal growth and preterm delivery of HIV-exposed uninfected infants.
**WEPEB 115**

**THE ANTIRETROVIRAL PREGNANCY REGISTRY: 25 YEARS OF MONITORING FOR BIRTH DEFECTS**

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**Background:** Antiretrovirals (ARVs) have been effective in reducing vertical transmission of HIV. The Antiretroviral Pregnancy Registry (APR) has monitored prenatatal ARV use for an early signal of teratogenicity for 25 years.

**Methods:** APR is an ongoing international, voluntary, prospective exposure-regis -try. It is an ongoing voluntary, prospective exposure-registudy overseen by an independent Advisory Committee with both prevalence and risk for major birth defects are estimated and compared to internal and external comparator groups. Statistical inference is based on exact methods for binomial proportions. Sufficient numbers of 1st trimester exposures have been monitored to allow detection of at least 1.5-fold increase in risk of overall birth defects for nine ARVs and a two-fold increase for six.

**Results:** Of the 17618 evaluable prospectively enrolled pregnancies through July 2015, there were 16699 live births (LB) with prenatatal ARV exposure at any time during pregnancy and 473 birth defects for overall prevalence of 2.8 defects/100 live births (95% confidence interval (CI): 2.6, 3.1). Among 7738 1st trimester exposures to ARVs, 221 birth defects were reported, with a prevalence of 2.9% (95% CI: 2.5, 3.3). Among 8959 2nd/3rd trimester exposures to ARVs, there were 250 birth defects, with a prevalence of 2.8% (95% CI: 2.4, 3.2). Prevalence Ratio comparing 1st to 2nd/3rd trimester exposures was 1.02 (95% CI: 0.86, 1.22).

**Conclusions:** To date the overall birth defect prevalence in APR has not been signiﬁcantly different from two population based surveillance systems: 2.72/100 live births reported in the Metropolitan Atlanta Congenital Defects Program (MACDP, Centers for Disease Control and Prevention); and 4.17/100 LB from the Texas Birth defects Registry (TBDR). The APR independent Advisory Committee concludes “The Antiretroviral Pregnancy Registry finds no apparent increases in frequency of speciﬁc defects with ﬁrst trimester exposures and no pattern to suggest a common cause; however, potential limitations of registries should be recognized”.

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**WEPEB 117**

**COMPARED TO SHORT COURSE ZIDOVUDINE, DOES TRIPLE ANTIRETROVIRAL THERAPY IMPROVE ANTIBODY TRANSFER ACROSS THE PLACENTA?**

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**Background:** Highly active anti-retroviral (ART) therapy given during pregnancy improves a woman’s immunological profile. However, impact on antibody transfer to the foetus is unknown.

**Methods:** Human immunodeficiency virus (HIV) type 1 infected pregnant women in Nairobi and Mombasa, Kenya, with CD4 counts between 200 - 500 were randomized at 32 weeks gestation to short course zidovudine (AZT) or triple ARV (AZT/Lamivudine/3TC)/Kaletra/Ritonavir) for prevention of mother to child HIV-1 transmission (PMTCT). Levels of antibodies against measles virus, Streptococcus pneumoniae and rotavirus were measured at enrollment, and delivery. The two arms of the study were compared to determine effect of short course and triple ARVs on levels of maternal pathogen-specific antibodies and amounts transferred to the baby through cord blood.

**Results:** Overall, 341 patients were randomized to triple ARV and 148 to short course AZT; cord blood was available only for the Nairobi site (n=20 in triple ARV arm and n=22 in short course AZT arm). Socio-demographic and clinical characteristics were similar between arms. Antibody levels to measles, S. pneumoniae and rotavirus were comparable at enrolment and delivery between arms. However, there were lower measles and pneumococcal antibody levels at delivery while rotavirus antibody levels at delivery were comparable to those at enrolment. There was a trend for women on triple ARV to transfer higher levels of measles antibody compared to transfer in the AZT arm.

| Antibody Levels at enrolment and delivery by treatment arm |
|----------------------------------|---------|---------|--------|
| **Measles (IgG) (mIU/mL)** | **Triples**<br>(median (IQR)) | **Short-course**<br>(median (IQR)) | **p-value** |
| 2349 (1096-5897) | 2592 (1159-3343) | 0.3 | 1614 (676-4462) | 1858 (644-4340) | 0.9 |
| **Pneumococcal**<br>(IgG (mg/mL)) | 45 (26-78) | 50 (28-93) | 0.9 | 36.5 (20-67) | 39 (18-65.5) | 0.8 |
| **Rotavirus**<br>(IgG (U/mL)) | 10584 (6140-18313) | 10707 (676-17745) | 0.8 | 10532 (5930-20784) | 9382 (6119-18139) | 0.5 |

**Conclusions:** This study concludes that C-peptide, GIP, GLP-1, PAI-1 and visfatin were significantly deregulated hence they may have predictor test value in pre-eclampsia diagnosis at an early stage. This is the first study to report adipokine dysregulation in the triad of HIV infection, pre-eclampsia and obesity.
WEPEB118
DEPRESSION, RETENTION IN CARE, AND UPTAKE OF PMTCT SERVICE IN KINSHASA, THE DEMOCRATIC REPUBLIC OF CONGO: A PROSPECTIVE COHORT
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Background: Depression may play an important role in observed high rates of Loss-to-follow-up (LTFU) along the prevention of mother-to-child transmission (PMTCT) cascade in sub-Saharan Africa. We do not know of any study that has explicitly examined the association between Depression and LTFU in PMTCT settings. The aim of this study was to assess the association between prenatal depression and 1) LTFU or 2) Uptake of PMTCT services (attended all scheduled clinic visits and accepted available services).

Methods: Between April 2013 and August 2014, as part of a randomized control trial to evaluate the effect of providing a small, and increasing, cash incentive conditional on attending scheduled clinic visits and accepted offering PMTCT services on retention in and uptake of PMTCT services, newly-diagnosed HIV-infected women (≥2 weeks pregnant, registering for antenatal care, in 85 clinics in Kinshasa, Democratic Republic of Congo, were recruited and followed-up until LTFU, death, transfer out, or six-weeks postpartum, whichever occurred first. Participants were interviewed at enrollment using a questionnaire which include the Patient Health Questionnaire (PHQ-9). Depression was defined as a PHQ-9 score of ≥20.

Results: Among 433 women enrolled, 51 (11.6%) had a PHQ-9 score ≥20 including 15 (3.5%) with a score ≥40. At six weeks postpartum, 67 (15.5%) were LTFU and 331 (76.4%) were in care and have accepted all available PMTCT services. Of participants with depression at enrollment, 17.7% (9/51) were LTFU at six weeks postpartum compared to 15.2% (58/382) among those without, but the association was not statistically significant: adjusted OR 1.26 (95%CI 0.57-2.76); adjusted for age, education, gravity, initiation of ANC visit before 20 weeks of gestation, wealth quintile and whether the participant walk to clinic or not. On the other hand, 78.4% (40/51) of participants with PHQ-9 score ≥20 were in care at six week postpartum and had attended all scheduled visit in time and accepted available services compared to 76.2% (293/382) among those with PHQ-9 score < 15; adjusted OR 1.04 (95%CI 0.51-2.14).

Conclusions: In this cohort of newly-diagnosed HIV-infected pregnant women, prenatal depression did not predict LTFU or uptake of PMTCT at six weeks postpartum.

WEPEB119
TUBERCULOSIS IN HIV-INFECTED PREGNANT WOMEN (FW) IN HAITI: LESSONS LEARNED (1999-2014)
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Background: Haiti is one of the countries most affected by tuberculosis (TB) and HIV in the Americas. TB infection during pregnancy among HIV-infected women is associated with poor maternal and infant outcomes. HIV prevalence among pregnant women is unknown, as not routinely collected by HIV programs. We report TB diagnoses among HIV-infected pregnant women enrolled in prevention of mother-to-child transmission (PMTCT) care at GHESKIO, one of the largest HIV programs in Haiti, from 1999 through 2014.

Methods: Data from all HIV-infected pregnant women enrolled in PMTCT care at GHESKIO from January 1999 to July 2014 were retrospectively analyzed. PMTCT care spans the period from HIV testing of PW through follow-up of the mom and baby 18 months post partum for final HIV infant diagnosis (according to national guidelines). TB screening and diagnosis was done using the American Thoracic Society diagnostic standards.

Results: 3737 HIV-infected women had a total 4665 unique pregnancies. Median age was 27 years; 76% earned ≤$1/day. Median maternal CD4 at time of PMTCT enrollment was 494 cells/µl (IQR 328-691). Among 3737 women, TB was diagnosed in 160 patients (4.3%) with median CD4 of 313 (23 - 1048) at time of TB diagnosis. Of the 160 TB patients, 76 (47.5%) were on antiretroviral treatment (ART). Previous history of TB was reported in 174 (4.6%) of the 3737 (PW), within a median of 16 months (1-120) prior PMTCT enrollment.

Conclusions: This cohort of HIV + pregnant women in Haiti has a high prevalence of TB. This may be an underestimation of TB prevalence given suboptimal screening and difficulty in diagnosing latent TB in pregnancy. There is a need to reinforce active screening for diagnostic of TB in this population to improve health outcomes.
ISSUES RELATED TO HORMONAL AND NON-HORMONAL CONTRACEPTION

WEPEB121
ASSESSING THE EFFECT OF DEPOT MEDROXYPROGESTERONE ACETATE (DMPA) VERSUS NORETHISTERONE ENANTHATE (NET-EN) ON HIV DISEASE PROGRESSION AMONG RECENTLY INFECTED SOUTH AFRICAN WOMEN

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Background: Injectable hormonal contraceptives (HC) are frequently used in South Africa, including among HIV+ women. We compared the effect of two injectable contraceptives, depot medroxyprogesterone acetate (DMPA) and norethisterone enanthate (NET-EN) on HIV disease progression.

Methods: Women who acquired HIV infection during the VOICE trial were invited to enroll in MTN-015, a prospective cohort study evaluating the impact of investigational HIV chemoprophylactic preventative agents on HIV disease progression. Study visits occurred at enrollment and 1, 3, and 6 months after detection of HIV infection, then 6-monthly. Contraceptive use, CD4+ T-cell count, plasma HIV-1 viral load, and antiretroviral therapy (ART) initiation were assessed at enrollment and regular follow-up visits. Among South African women reporting injectable HC use at enrollment, ART initiation hazards models were used to compare effects of NET-EN versus DMPA on time to CD4 < 350 and ART initiation.

Results: Among 232 HIV+ South African women who enrolled and returned for follow-up, 184 reported using injectable HC at enrollment, 124 (67%) used DMPA and 60 (33%) used NET-EN. Median time from testing HIV+ to VOICE enrollment was 68 days (interquartile range: 37, 114). Median age was 23 years and median CD4 count and HIV-1 viral load were 537 cells/mm^3 (IQR: 422, 711) and 4.4 log10 copies/ml (IQR: 3.6, 4.9), respectively. Two women were on ART at enrollment. Demographic and clinical characteristics did not differ by baseline injectable method. Median follow-up time was 1.87 years. No significant differences were noted for time to CD4 < 350 or ART initiation by injectable method.

<table>
<thead>
<tr>
<th># of events/person-years</th>
<th>Unadjusted HR (95% CI)</th>
<th>Adjusted HR (95% CI)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4 &lt; 350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NET-EN</td>
<td>14/61</td>
<td>1.23 (0.64, 2.38)</td>
</tr>
<tr>
<td>DMPA</td>
<td>25/133</td>
<td>Ref</td>
</tr>
</tbody>
</table>

HR = hazard ratio. *Cox proportional hazards models adjusted for baseline CD4 count and included injectable HC method as a time-varying exposure with follow-up censored if women reported stopping injectable HC. For the CD4 <350 model, follow-up was also censored at ART initiation.

Conclusions: Understanding the effects of DMPA and NET-EN on HIV disease progression is important in South Africa where HIV prevalence is high and injectable HC are common. Our findings suggest no substantial difference in HIV disease progression between recently infected HIV+ users of DMPA and NET-EN.

WEPEB122
EXPANDING THE MIX OF CONTRACEPTIVE METHODS IN AN HIV PREVENTION TRIAL

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Background: In many African settings with high HIV incidence, contraceptive options are limited. Comparatively fewer women use long-acting reversible contraception (LARCs) such as intrauterine devices (IUDs) and implants, than use injectable depot medroxyprogesterone acetate (DMPA), which has been associated with an increased risk of HIV acquisition in some studies. Within a large, multinational HIV prevention study (MTN-020/ASPIRE), a phase III trial of the dapivirine vaginal ring, a Contraceptive Action Team (CAT) was established to expand contraceptive options for participants.

Methods: Reliable contraceptive use was an enrollment requirement for MTN-020/ASPIRE. Contraceptive use was assessed monthly; motivations for switching were collected from the participants’ charts. The CAT was comprised of 1-3 study members per site; sites identified and addressed challenges with increasing LARC uptake.

Results: 2,629 women enrolled in MTN-020/ASPIRE. The CAT initially identified six key barriers to LARC uptake: provider, community, and participant bias; lack of IUD and implant training, and acquisition of LARC devices. At screening, 30% used DMPA, 28% reported no method; LARC’s were used by < 15% of women. Over the course of follow-up, IUD use increased from 2 to 18%, and implants increased from 12 to 28%, with 46% of women using LARCS by the end of the study (Figure 1). Oral contraceptive use decreased from 17% to 7%. Method switching during the study occurred in 1,162 women (46%) with the most commonly cited reason for the first switch being interest in LARC. The pregnancy rate during the study was 4%.

Conclusions: Expansion of the contraceptive method mix at HIV prevention research sites can be successfully achieved with on-site provision of LARCs. These data suggest that, when individually counseled and offered a range of options, women in HIV prevention settings will diversify contraceptive uptake. This approach may in- form models for integrated delivery of family planning and HIV prevention services.
were 0.58 (0.17-1.92) and 0.74 (0.28-1.96), respectively. At all strata of BMI, we compared the adjusted incident rate ratios for underweight and overweight women in comparison to normal weight women were 0.94 (95% CI 0.26-3.34) and 1.49 (0.45-4.92), respectively. Our data does not suggest an association between higher BMIs and worsening negative impact of efavirenz on implant effectiveness. However, studies with greater number and follow-up of overweight and obese women are needed to better evaluate the effect of increasing BMI on implant effectiveness among efavirenz users. Nonetheless, until more definitive data are available, caution should be taken in considering higher BMI an additional risk factor in women considering contraceptive failures (or pregnancies) among HIV-positive women. With other hormonal contraceptives, such as oral contraceptive pills, increasing body mass index (BMI) may also reduce contraceptive effectiveness. We aimed to determine if increasing BMI modifies the association between concomitant efavirenz use and incident pregnancies among implant users.

Methods: We conducted a secondary analysis of a cohort of HIV-positive women aged 15-45 years using implants enrolled in care in Western Kenya and followed from January 1, 2011 to December 31, 2013. The primary outcome was incident pregnancy diagnosed clinically. The primary exposures were ART regimen (efavirenz, nevirapine-based ART, and no ART) and BMI (underweight: BMI≤18.5, normal weight: BMI18.5 but <25, and overweight: BMI≥25 < 30 since no pregnancies were observed in the few obese (BMI≥30) women in our cohort). We used Poisson models, adjusting for repeated measure, age, and the World Health Organization HIV stage, to compare pregnancy rates among implant users on different combinations of ART regimen and BMI.

Results: Our analysis included 3,457 women using implants contributing 5,885 years of follow-up with 84 incident pregnancies. Among efavirenz-based ART users, the adjusted incident rate ratios for underweight and overweight women in comparison to normal weight women were 0.94 (95% CI 0.26-3.34) and 1.49 (0.45-4.92), respectively. Among nevirapine-based ART users, the adjusted incident rate ratios for underweight and overweight women in comparison to normal weight women were 0.58 (0.17-1.92) and 0.74 (0.28-1.96), respectively. At all strata of BMI, we observed higher incident pregnancies among women on efavirenz vs. nevirapine-based ART. The interaction term between ART regimen and BMI was not significant.

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WEPEB 127

SELF-COLLECTED VS. PROVIDER-COLLECTED SAMPLES FOR CERVICAL SCREENING AMONG HIV-INFECTED WOMEN USING XPERT HPV

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Background: Self-collected vaginal swabs may provide a useful and cost-effective alternative to provider-collected specimens in HPV "test-and-treat" programs. We determined agreement between self- and provider-collected samples using the Xpert HPV test, a point-of-care, real-time PCR for high-risk HPV (hrHPV).

Methods: This is an interim report of an ongoing cross-sectional study of HIV-infected South African women. We calculated (1) agreement beyond chance (Cohen’s Kappa statistic), and (2) percent agreement among positives between self-collected and provider-collected swabs.

Results: Between December 2014 and May 2015, 106 eligible women were enrolled. The median age was 39 years (interquartile range [IQR]: 35-44) and median CD4+ cell count 396 cells/ul (IQR: 269-608). Forty-three (41%) self-collected and 35 (33%) provider-collected samples were positive for at least one hrHPV type. Self-collected samples displayed greater cellularity, with lower mean Ct values (30.6 vs. 31.7, p<0.001). With respect to agreement between self- and provider-collected samples, the Kappa statistic for any hrHPV type, HPV16, and HPV18 or 14 were 0.64 (95% confidence interval [CI]: 0.49-0.79), 0.68 (95% CI: 0.42-0.94), and 0.71 (95% CI: 0.47-0.96), respectively.

Conclusions: We observed robust agreement between self- and provider-collected samples tested using Xpert HPV at the point-of-care, with greater cellularity and increased hrHPV detection in the self-collected samples. Our preliminary results suggest a potential role for self-collected samples in HPV test-and-treat programs.

WEPEB 128

EFFECT OF GENDER ON SURVIVAL IN AND IN THE CAUSES OF DEATH IN THE AIDS RESEARCH NETWORK COHORT CORIS 2004-2014

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1Hospital Santa Bárbara, Medica Interna, Puertollano, Spain, 2Hospital Raman y Cajal, Madrid, Spain, 3Hospital La Paz, Madrid, Spain, 4Hospital Gregorio Marañón, Madrid, Spain, 5CS Sandoval, Madrid, Spain, 6Hospital La Rioja, La Rioja, Spain, 7Hospital Vírgen De La Victoria, Málaga, Spain

Background: A higher vulnerability of women admitted in the CORIS cohort was observed in recent years. Our objective was to estimate gender impact on survival and in the causes of death in the CORIS cohort from 2004 to 2014.

Methods: CORIS is an open prospective multicentre cohort of HIV-infected adults naive to cART at entry. Gender differences in causes of death and gender effect on time to death were studied. Kaplan Meier survival curve (log-rank test) and Cox estimative regression models were done including some at enrolment confounders (age, category of transmission, geographical origin, level of education, HIV CDC stage, CD4 cell count < 200 cel/mL and HIV-RNA level >10^5 copies/ml). Date of entry in the cohort was categorized in 3 periods, 1 (2004-2007), 2 (2008-2010) and 3 (2011-2014).

Results: Overall 371 (3.5%) deaths were observed in the studied period, 71 (4.1%) and 300 (3.4%) in women and men, without no differences in the estimated 10-year survival after entering the cohort, 88% vs. 92%, p=0.83. The most frequent cause of death was related with HIV infection (41.5 %) followed by not HIV related neoplasias (14 %), without differences according to gender or the period explored. The effect of gender on time to death was investigated separately in the three periods, as an interaction between gender and period was shown (p = 0.003).

Conclusions: World region of birth and age were strong predictors of CD4 decline. Our formulas can be applied on HIV-diagnosed adults without previous negative HIV tests.
WEPECG130
ENGAGING IN MICROBIDE VAGINAL RING TRIALS: SUCCESSES AND CHALLENGES
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1International Partnership for Microbicides, External Affairs - Cape Town, South Africa, 2International Partnership for Microbicides, External Affairs, Paarl, South Africa, 3Independent Consultant, Cape Town, South Africa, 4MRC/UVRIGanda Uganda Study Unit for AIDS, Masaka, Uganda, 5Maternal, Adolescent and Child Health (MACS) Research, Eldersedge, South Africa, 6Wadlingber Centre for Research, Brits, South Africa, 7Ndlovu Research Consortium, Eldersdood, Dennilton, South Africa, 8Desmond Tutu HIV Foundation, Fais Hoek, South Africa, 9Qhakaza Mboledo Research Clinic, Ladysmith, South Africa, 10International Partnership for Microbicides, Paarl, South Africa
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Background: Addressing women’s social and physiological vulnerability to HIV infection is a global health priority, underscored in international strategies aiming to eliminate new HIV infections. Early biomedical responses solely focused on efficacy, without a corresponding investment to broader community in which the women come from. Contemporary study designs recognize that participating women are surrounded by many influencers, e.g. household, community members and stakeholders servicing community to optimize retention and adherence. Identifying mechanisms to support women’s microbicide use in communities is a critical pillar for future access.

Methods: Seven research centres (RCs) across South Africa (6) and Uganda (1) implemented multi-layered community engagement strategy to meaningfully involve men. Adopting UNAIDS/FAC Good Participatory Practice (GPP) guidelines as an overarching framework, RCs tailored responses to their environments. Male community leaders, religious institutions and other positions of influence which continue to be male-dominated are targeted in culturally-sensitive, community responsive interventions. Conducted one-on-one /couples’ counselling, male workshops and dialogues to reach men in diverse circumstances.

Results: All RCs reported increase in male acceptability and support for The Ring Study. Where men are supportive, women displayed improved adherence and report better psychological well-being. Participants have benefitted from this direct support from community liaison officers in engaging their partners, resulting in improved participant retention.

Conclusions: Successful male engagement has positively improved retention and adherence of study participants for The Ring Study. These interventions remain resources intensive and future success requires the identification of critical enablers to adherence of study participants for The Ring Study. These interventions remain re-proved participant retention.

WEPEC131
COMMUNITY INVOLVEMENT IN BIOMEDICAL PREVENTION
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Background: Partnering and engaging with trial participants, community, regulatory and government stakeholders is a key component of trial result dissemination plans. The South African Medical Research Council, HIV Prevention Research Unit enrolled 9796 women in four phase III and two phase IIb HIV prevention trials at community-based sites in KwaZulu Natal between 2003 and 2012. This paper highlights the outcomes of implementing a multi-tiered dissemination plan among these participants and stakeholders.

Methods: Dissemination plans included timelines for presenting results to study staff, participants, community working groups (CWGs), regulatory and government stakeholders and the media. Trial outcome scenarios were communicated to participants and stakeholders approximately six months prior to release of results. Researchers worked closely with participants, CWGs, stakeholders and trial sponsors to develop key messages, presentations and press releases, which were translated into the local language. Peer educators and key CWG members were trained in media communication. Researchers contacted participants via telephone, home visits, and SMS to inform them of dissemination meetings. Stakeholders were invited to meetings via telephone, SMS and written letters. Staff, CWGs, participants and stakeholders signed confidentiality agreements when results were disseminated to them while under embargo.

Results: Participants received results either at planned meetings or at study sites. Approximately 60% of participants in these studies received results within one week of release. Several dissemination meetings (n=108) were held with CWGs, and other stakeholders. Participants and stakeholders appreciated the transparent and participatory dissemination process. Participants displayed a good understanding of trial results and were willing to participate in future HIV prevention research. Participants expressed disappointment with futile results and reported that some women did not adhere to the protocol and interventions. During the latter three trials, participants (n=20) and CWG members (n=8) were media spokespersons together with study investigators. Participants shared positive trial experiences despite interventions showing no effect in preventing HIV.

Conclusions: Using a participatory process to engage participants and stakeholders was effective in ensuring prompt dissemination of results and adequate understanding of trial outcomes. Well-developed transparent communication plans will strengthen the partnership between stakeholders, participants, and researchers and minimize challenges associated with dissemination of trial results.

WEPECG132
MEASUREMENT AND MODELLING OF THE IMPACT OF TREATMENT ON PREVENTION OF HIV
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Background: Since September 2015, the World Health Organisation (WHO) has recommended that ART be offered to all people living with HIV. Many researchers also advocate a more intensive universal ‘test-and-treat’ (UTT) strategy. We investigate the cost-effectiveness of these and other ART scale-up options in Uganda.

Methods: An individual based model was developed simulating HIV transmission and ART scale-up. The model was fitted using history matching, and 1880 baseline scenarios were created to account for uncertainties in costs, disability weights, sexual behaviour, HIV epidemiology, and ART coverage in Uganda. Six different ART scale-up strategies were simulated from 2016-2030: 1) increased HIV testing rates, 2) UTT [increased HIV testing, improved linkage to care, no CD4 threshold for ART], 3) no CD4 threshold for ART, 4) improved pre-ART care, 5) increased retention on ART, and 6) increased ART restart rates.

The cost per DALY averted was calculated (health service perspective, 3% discount rate) for each intervention and scenario, to determine which interventions are likely to be highly cost-effective or cost-effective (cost < 1 or 1-3 per-capita-GDP per DALY averted respectively), and to identify the most cost-effective option.

Results: Preliminary results suggest that interventions 3-6 are all likely to be highly cost-effective strategies for scaling-up ART coverage in Uganda, with removing the CD4 threshold being the most cost-effective option in 88% of scenarios. UTT is also very likely to be a cost-effective option (cost-effective in 98% of scenarios), however it is among the top three most cost-effective interventions in only 10% of scenarios. Increasing HIV testing rates is only cost-effective in 3% of scenarios, and is the least cost-effective option in 96% of scenarios.

Conclusions: Our results suggest that removing the CD4 threshold for ART initiation is likely to be a highly cost-effective ART scale-up option for Uganda, and it is very likely to be the most cost-effective of the options considered. We recommend that Uganda offers ART to all people living with HIV, following WHO recommendations. UTT is very likely to be cost-effective and should be considered if resources to implement it are available, however it should not be prioritised above other, more cost-effective, strategies.
Wednesday 20 July Poster Exhibition

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Late Breaker Posters

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ESTIMATION OF THE NEED FOR ART

WEPEC133

HIGH HIV PREVALENCE AND LOW HEALTH SERVICE ACCESS AND UTILISATION AMONG MOBILE POPULATIONS ALONG THE N3 HIGHWAY IN SOUTH AFRICA

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Background: In South Africa, female sex workers (FSW) and long-distance truck drivers (LDTD) have been largely understudied. Available evidence shows these populations are highly vulnerable to HIV infection and potential drivers of the HIV epidemic. Using data from the Key Populations along the N3 motorway (KPN3) study, we present HIV testing and prevention, access to and utilisation among FSW and LDTD, and provide recommendations for programmes working with these populations.

Methods: Time-location sampling was used to recruit 173 FSW and 518 LDTD at rural truck stops between Harrismith, Free State and Cato Ridge, KwaZulu-Natal provinces, from August to December 2014. Eligible participants completed an interviewer-administered behavioural questionnaire, underwent HIV rapid testing, and provided blood samples for laboratory HIV testing. Adjusted analyses of key variables showed no difference based on clustering effects or probability weighting.

Results: HIV prevalence among FSW and LDTD in the sample was 88.4% (95% CI: 83.3-93.5%) and 16.7% (95% CI: 13.5-19.9%) respectively. HIV testing within 12 months preceding the survey was reported by 42% (95% CI: 34.6-49.3%) of FSW and 58.9% (95% CI: 54.7-63.1%) of LDTD. Nearly one fifth (19.2%) of FSW and 8.6% of LDTD in the study were newly diagnosis with HIV during study testing and were previously unaware of their status. Among LDTD who self-reported a prior HIV-positive test, 83.3% (95% CI: 72.0-94.6%) had consulted a medical professional related to their status and 71% (95% CI: 57.7-85.1%) were on ART. In contrast, a high HIV-positive test, 83.3% (95% CI: 72.0-94.6%) had consulted a medical professional (71.7%; 95% CI: 63.6-79.8%) and significantly less received ART (48.3%; 95% CI: 39.4-57.2%; P<.01).

Conclusions: ART (48.3%; 95% CI: 39.4-57.2%; P< .01).


good participatory practice and community involvement in prevention research

WEPEC135

INVOLVEMENT OF KEY POPULATIONS IN MAPPING AND ESTIMATING THE SIZE OF ‘KEY POPULATION’: EXPERIENCES FROM LAGOS, NIGERIA; GOOD PARTICIPATORY PRACTICE AND COMMUNITY INVOLVEMENT IN PREVENTION RESEARCH

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Background: HIV prevalence amongst Men Who Have Sex with Men (MSM) in Lagos is estimated to be17.2 %. MSM are among the most hidden sexual minority population.

The prevailing legal and policy environment in Nigeria exacerbates an extreme vulnerable work life. MSM face severe public stigma, discrimination and fear of being publicly identified and insulted by health workers, and are less likely to seek HIV and sexually transmitted infections (STI) services hence, identifying networks of high-risk MSM are difficult. Therefore, an innovative method is required to be able to identify MSM for HIV services. The USAID- Funded Strengthening HIV Prevention Services (SHIPS) project in Nigeria conducted mapping and size estimate study of MARPs in Lagos and 6 others states and FCT in 2015 with the objective of identifying hot spots for MSM and other key population

Description: The study utilized the capture and re-capture methodology recommended by Mannan for estimating size of MSM in any location. Capture-recapture is a statistical method for estimating the numbers of individuals from groups that are hidden or hard to reach using a probabilistic calculation. Recapture activities are conducted within one to two weeks after the initial capture activities to minimize any population drifts. The study uses key population as data collectors and enumerators trained on principles of confidentiality and ethical handling of research data. The survey was conducted across the 20 Local Government Areas.

Lessons learned: Involvement of key populations enhanced the generation of relevant information about the location, number and typologies of MSM leading to the understanding of the hidden population with the aim of providing evidence for improved programming. Estimated population of MSM (M&C 2015 4,828) compared with recent similar study (LEA, 2012 2,838) shows more number of MSM in Lagos state.

Conclusions/Next steps: Considering the involvement of key populations in successful mapping and size estimation, they should be engaged in HIV programming to create ownership and sustainable program impact.


table 1 STI positivity rate among MSM with high risk behavior at the STI clinic of Amsterdam, not including new HIV infections. *includes later visits

<table>
<thead>
<tr>
<th>First visit</th>
<th>Second visit</th>
<th>Third visit</th>
<th>Fourth visit</th>
<th>Fifth visit</th>
<th>Sixth visit</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-negative MSM</td>
<td>30/95 (31.9%)</td>
<td>27/85 (31.4%)</td>
<td>57/180 (31.7%)</td>
<td>9/48 (18.8%)</td>
<td>6/33 (18.2%)</td>
<td>101/452 (22.3%)</td>
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<tr>
<td>HIV-positive MSM</td>
<td>22/68 (32.6%)</td>
<td>24/85 (28.2%)</td>
<td>22/72 (30.6%)</td>
<td>16/66 (24.2%)</td>
<td>16/56 (28.6%)</td>
<td>33/452 (7.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>52/163 (31.9%)</td>
<td>51/167 (30.8%)</td>
<td>79/252 (31.3%)</td>
<td>35/114 (30.4%)</td>
<td>32/192 (16.7%)</td>
<td>134/904 (14.9%)</td>
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<tr>
<td>P-value</td>
<td>0.840</td>
<td>0.840</td>
<td>0.840</td>
<td>0.840</td>
<td>0.840</td>
<td>0.840</td>
</tr>
</tbody>
</table>

[Table 1 STI positivity rate among MSM with high risk behavior at the STI clinic of Amsterdam, not including new HIV infections. *includes later visits]
DETERMINATION OF HIV INCIDENCE

WEPEC136
CHARACTERIZATION OF FALSE RECENT RESULTS IN CRF02_AG HIV-1 BY THE LIMITING ANTIGEN INCUBATION ASSAY

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Background: The limiting antigen (LaG) immunoassay is widely used to estimate HIV incidence in cross-sectional surveys. Differences in key assay performance characteristics including the proportion of results that are classified incorrectly as “recent” (false recent rate or FRR) between subtypes of HIV have been reported previously. Precise estimation of incidence in cross-sectional surveys using laboratory assays requires a FRR below 2%. The performance of LaG in CRF02_AG, the subtype of HIV that is predominant in West African countries including Cameroon and Côte d’Ivoire, is unknown.

Methods: De-identified plasma specimens from 95 individuals living in Cameroon and infected with CRF02_AG HIV-1 for more than 2 years were studied. ART treatment naive individuals, recruited during pre-ART preparation, were screened for HIV infection using the national algorithm in Cameroon (Alerere Determine HIV 1/2 and Murex Combo Ag/Ab kit). HIV-1 subtype was determined by RT-PCR using HIV-1 specific primers that amplify a fragment of env gene including the immunodominant region. Viral sequences were aligned with reference strains and phylogenetic analysis was performed using PHYLIP 3.6c. LaG testing (Sedia, OR USA) was performed according to the manufacturer’s instructions.

Results: gp41 env sequence was obtained from RT-PCR products for all 95 specimens, indicating the presence of HIV RNA at detectable levels. Sequences were found to cluster most closely with CRF02_AG reference strains. Ag normalized optical density (ODn) values ranged from 0.19 to 6.9. Two specimens had ODn below 1.0, and 3 below 1.5 (the threshold for assignment as a “recent” infection). Since all patients were infected for longer than 2 years and had detectable HIV RNA at the time of specimen collection, the FRR is ≤2% (95% confidence interval: 0.7% - 9.0%).

Conclusions: The FRR for LaG in this set of 95 virescent, longstanding infected CRF02_AG plasma specimens is slightly higher than has been reported for HIV subtypes A, B and C. These results should be extended and confirmed in additional studies, in order to assess whether or not cross-sectional estimation of HIV incidence using LaG or LaG plus viral load in countries or key populations where CRF02_AG is predominant is feasible.

WEPEC137
ESTIMATION OF HIV INCIDENCE USING RETROSPECTIVELY-COLLECTED HIV TESTING HISTORY IN BOTSWANA

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Background: HIV incidence is used to assess the impact of prevention interventions and baseline transmission potential in a population. Laboratory capacity needed to perform recency assays to estimate HIV incidence may not be readily available, particularly in resource-limited settings. We propose an alternative approach to estimating HIV incidence based on retrospectively-collected HIV testing history.

Methods: We used retrospectively-collected HIV testing history from participants enrolled in the Botswana Combination Prevention Project (BCPP), a 30 community pair-matched, cluster randomized trial. Between October 2013 and November 2015, a random 20% sample of community residents aged 16-64 years enrolled. Participants completed a baseline survey and documentation of last HIV test were collected. All participants without documentation of a prior HIV-positive test result were offered HIV testing. Survival analysis was conducted to account for person-time at risk, assuming that time since infection was exponentially distributed from the documented HIV-negative test date to the survey date. We restricted the analysis to participants who had tested within 12 months of baseline, following Botswana’s annual testing recommendations.

Results: Among the 12,610 participants enrolled, 10,399 (82%) self-reported previously testing for HIV infection. Only 5,476 (53%) provided documentation of either prior HIV-positive status (N=2,995) or HIV-negative status (N=2,481). Among participants with a previous dated HIV-negative test result, the median time since last HIV test was 6.6 months (IQR: 2.6-14.9). Among 1,700 participants who tested HIV-negative within the prior 12 months, 12 tested HIV-positive at baseline. We estimated a HIV incidence rate of 1.88 cases/100 person-years (95% CI: 0.81-2.94). This incidence estimate is slightly higher than the most recent assay-based incidence estimate of 1.33 cases/100 person-years from the 2013 Botswana AIDS Indicator Survey. A trend toward higher HIV incidence in men than in women was observed (2.00 vs. 1.82 cases/100 person-years, respectively; p=0.37).

Conclusions: Estimation of HIV incidence using prior testing data has the potential to expand upon laboratory-based estimates. It will be important to explore how risk behavior varies with the time interval between tests. In resource-limited settings, investing in automated data collection of HIV testing with unique identifiers would allow for an alternative method of HIV incidence estimation.

WEPEC138
REPEAT HIV TESTING AND INCIDENT HIV DIAGNOSIS AMONG CLIENTS ATTENDING VOLUNTARY COUNSELLING AND TESTING CLINICS IN WUXI, CHINA

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Background: Voluntary counselling and testing (VCT) clinics serve as an important platform for people seeking HIV testing in China. We aimed to elucidate HIV testing uptake and incident HIV diagnosis among clients attending VCT clinics in Wuxi, China.

Methods: Data on clients attending 32 VCT clinics in Wuxi, China 2013-2015 were retrieved. Phone number was used to identify individuals. Simple descriptive statistics were used to describe the characteristics and HIV testing behaviors. Multivariate logistic regression was used to analyze factors associated with repeat HIV testing. Cox regression was used to explore factors associated with incident HIV diagnosis.

Results: In total 18359 valid records representing 16621 individuals were included. At first visit, 39.5% were men, 61.7% were younger than 30, 58.3% were married, 27.9% of men reported homosexual behaviors and 31.2% reported previous HIV testing. A total of 5568 clients had 6422 HIV tests in 2013, 5642 clients had 6268 HIV tests in 2014 and 5411 clients had 5669 HIV tests in 2015. Of the 16293 clients who were tested HIV negative at first visit, 6.7% retested during 2013-2015 with an incident HIV diagnosis rate of 4.4 per 100 person-years. Of the 1625 men who reported homosexual behaviors and who were tested HIV negative at first visit, 17.3% retested during 2013-2015 with an incident HIV diagnosis rate of 12.2 per 100 person-years. Repeat HIV testing was associated with male gender (odds ratio[OR]=1.4, 95% confidence interval[CI]: 1.2-1.7), risk behaviors [homosexual behaviors (2.5, 1.9-3.2), commercial heterosexual behaviors (1.7, 1.3-2.2) and injection drug use (7.0, 4.9-9.8), versus casual non-commercial heterosexual behaviors], having ever tested for HIV (4.3, 3.7-5.0), being HIV positive (0.5, 0.3-0.7) and ascending year (2.0, 1.8-2.1).

Incident HIV diagnosis was associated with male gender (HR=8.5, 1.9-38.3), homosexual behaviors (HR=8.4, 1.5-46.7), attending hospital-based VCT clinics (HR=7.8, 1.1-58.3) and being referred by a clinical service (HR=4.5, 1.1-20.1).

Conclusions: Low repeat HIV testing rate and high HIV incidence were observed among VCT clients in Wuxi, China. There is an urgent need to increase HIV testing uptake and encourage frequent HIV testing among clients with high risk behaviors, men who have sex with men in particular.

WEPEC139
CROSS-SECTIIONALLY ESTIMATED AGE-SPECIFIC HIV INCIDENCE AMONG YOUNG WOMEN IN A RURAL DISTRICT OF KWAZULU-NATAL, SOUTH AFRICA

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Background: Population-level HIV incidence is the most sensitive indicator of epidemiological trends, especially in the era of monitoring high-level interventions in support of global HIV elimination goals. But, despite progress in methods using demographic and biomarker data, the estimation of incidence continues to be very difficult and expensive. In particular, methods to interpret age structure in prevalence, and its changes over time, are underdeveloped, leading to missed opportunities in leveraging widely available data.

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Methods: Adapting a method previously described by some of the authors, re-
gression of age-dependent prevalence measures from a population-based survey in
Mbongolwane and Eshowe was used to estimate incidence and age trends in
incidence, among young women (15-23 years), who experience the highest inci-
dence and who can be regarded as a sentinel population. In addition to a prevalence
‘gradient’, the method requires an estimate of excess mortality of the HIV positive
subpopulation, which, for young subjects, is shown to have negligible impact on the
estimation procedure. Multiple parametric forms were explored to consider various
trade-offs of precision against sensitivity to age trends.

Results: The analysis suggests a rapid escalation in incidence from age 15 to 18
years, with a peak at 19 years of 6.2% p.a. (95% CI: 4.1%-8.2%). Using an age-in-
sensitive model produced an overall incidence estimate of 3.3% p.a. (2.6%-4.1%).
The figure shows incidence estimated using the most age-flexible model deployed.

Results: Among 2,164 adults [60.7% female, 21.3% HIV positive (9.1% among adults
age 15-24 years)], 712 (33.9%) self-reported an HIV-negative test during the previ-
ous 24 months. Among these repeat testers, HIV incidence was 8.5/100 PY (95% CI
6.3 - 11.5) based on 43 seroconversions in 504.8 PY. Incidence was higher among
urban compared to rural residents (16.5 vs. 4.9/100 PY, P<0.001). No significant dif-
fences in incidence were observed by sex, age, or marital status.

Conclusions: Repeat testers in our survey had an incidence rate well above the
threshold of 3.0/100 PY used by the WHO to identify populations at “substantial risk
for HIV infection”, which suggests unmet prevention need among this subgroup. We
recognize the potential for bias if individuals misreport their HIV status. However,
the high overall and youth-specific prevalence in our study population, which is
consistent with other survey estimates for Zambesi region, support this approach
for understanding recent infection. This approach may be particularly useful when
frequent repeat testing is possible.

WEPEC141
HIGH INCIDENCE OF SUBSEQUENT HIV SEROCONVERSION AMONG MONTREAL PEP USERS

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Background: Patients consulting for post-exposure prophylaxis (PEP) are at greater
risk for contracting HIV compared to other MSM and non-MSM males. Few studies
have examined the subsequent incidence HIV infections in this high-risk population
beyond the PEP follow-up period. The aim of this study is to determine the inci-
dence HIV seroconversions after PEP use for sexual exposures.

Methods: We prospectively assessed all patients consulting for PEP following sexual
exposures from October 2000 to July 2014. Patients that were HIV-positive at the
initial PEP consult and those that seroconverted during the 12-week PEP-follow-up
were excluded. HIV-negative patients with ≥20 weeks follow-up data were evalu-
ated for HIV seroconversion. The censoring date was the last negative/first positive
HIV test/PEP commencement. A Cox proportional hazards model was used to esti-
mate the factors associated with HIV seroconversion.

Results: 1350 patients were included. Patients were male (96%) and MSM (91%)
with a mean age of 33y (range 18-74y). 67% of patients had consulted for PEP for
the first time, while 33% had repeated PEP episodes. 200 patients (15%) had at
least one syphilis infection during follow-up. 129 patients (10%) had also consulted
for PrEP. Median follow-up was 176 weeks (IQR 91-273) representing 5075 person-
years of follow-up. Eighty-nine (7%) patients seroconverted after PEP use for an HIV
incidence rate of 1.75/cases/100pmy (95% CI 1.43-2.16/100pmy). Patients with a high
exposure risk at the time of the PEP consultation have an incidence rate 2.76% times
greater than with those with a low exposure risk (1.96 vs 0.71 cases/100 py, respective-
ly). All seroconverted patients were MSM with mean age of 33 years (range 21-51y).
Patients that are younger (aHR=0.96; p<0.002), have a syphilis infection following
PEP (aHR=4.55; p< 0.001) and have a moderate to high exposure risk at their first
PEP consult (aHR=2.40; p<0.04) are at greater risk of acquiring HIV following a PEP
consultation.

Conclusions: Patients consulting for PEP are at high risk of acquiring HIV. Young,
MSM individuals with a history of STIs and at-risk behavior are most vulnerable to
HIV infection. Patients consulting for PEP should consider PrEP as an alternative
therapy.

METHODS FOR ESTIMATING INCIDENCE USING CROSS-SUB-CATEGORIAL SAMPLES

WEPEC142
COMPARISON OF MAXIM AND SEDIA LIMITING ANTIGEN AVI DITY ASSAY PERFORMANCE

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Background: Accurate methods for cross-sectional incidence estimation are need-
ed for HIV prevention research. The Limiting Antigen Avidity Assay (La-Avidity)
has been marketed by two vendors (Maxim Biomedical and Sedia BioSciences
Corporation). Performance difference between the two LAg-Avidity assays is unknown.

Methods: A total 1410 treatment-naïve samples from 176 seroconverters from the Zimbabwe FHI 360 Hormonal Contraception and HIV trial (subtype C endemic area) were tested using the both versions of the LAg-Avidity assay. The correlation coefficients (R²) between both assays for the optical density (OD) and normalized optical density (OD-n) were calculated. We estimated the mean duration of recent infection (MDRI), the average time individuals appeared recently infected using a time window of 2 years) and false recent rate (FRR, the frequency of being identified as recently infected for samples from individuals infected >2 years) for both assays using an assay cut-off of 1.5 OD-n alone or in combination with a viral load of >400 copies/ml or >1000 copies/ml. Differences in MDRI and FRR were calculated.

Results: The R² for OD was 0.93 with a slope of 0.98; the R² for OD-n was 0.86 with a slope of 0.79. The MDRI (95% confidence interval) in days for Sedia was 140 (117,167) compared to 160 (138,188) for Maxim for a difference of 11 (1.31). The MDRI for an algorithm of LAg-Avidity +VL>400 copies/ml was 117 (95,142) for Sedia and 139 (117,164) for Maxim with a difference of 22 (13,32) days. The MDRI for an algorithm of LAg-Avidity +VL>1000 copies/ml was 104 (84,126) for Sedia and 123 (103,145) for Maxim with a difference of 19 (10,28) days. The FRR for any testing combination was ≤0.22.

Conclusions: Performance differences between Maxim and Sedia assays are due to differences in the calibrators, since these differences were more pronounced for OD-n than OD. The MDRI of the Maxim assay was 21 days larger than the MDRI for the Sedia assay, with near identical FRRs.

HIV TESTING AND DIAGNOSTIC STRATEGIES

WEPEC143
EVALUATION OF A RAPID POINT OF CARE (POC) HIV AND SYPHILIS SCREENING PROGRAM IN AN EMERGENCY DEPARTMENT (ED) SETTING IN DETROIT, MICHIGAN - 2015 - 2016

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Background: Cases of primary and secondary syphilis in Detroit, MI increased from 73 in 2010 to 199 in 2013: 56% of 2013 cases were in young black men who have sex with men (MSM), and 52% were HIV coinfected. To respond to a need for increased testing services, we implemented a rapid POC HIV and syphilis testing program for young men receiving care in an ED.

Methods: From 6/2015, we offered HIV and syphilis screening to men aged 18-34 years seeking ED care. Two rapid POC tests were employed: the Alere Determine HIV-1/2 Ag/Ab Combo test (Determine) and the Syphilis Health Check (SHC) treponema particle agglutination assay (TPPA). In order to reduce ED staff burden dedicated infectious disease staff conducted counseling and testing. Among patients with positive SHC results, testing staff reviewed medical records and surveillance data for evidence of past syphilis and offered immediate treatment to patients without a known previously treated infection.

Results: Of 582 participants tested (87% black, 5.0% MSM, median age 25 years) HIV (+30) or syphilis (+3) was identified in 1.0% of participants by rapid testing. One person had a false positive Determine, and another with acute HIV was only determined. A targeted HIV and syphilis screening program using dedicated, non-ED staff is feasible to implement in an ED setting. A high number of HIV and syphilis infections have been identified and treated (syphilis) or linked to care (HIV).

Conclusions: A targeted HIV and syphilis screening program using dedicated, non-ED staff is feasible to implement in an ED setting. A high number of HIV and syphilis infections have been identified and treated (syphilis) or linked to care (HIV). Our results highlight a potential role for dual HIV and syphilis rapid testing in settings with patients at risk for these infections.

WEPEC144
WHAT IS THE TRUTH? A COMPARISON OF HIV RESULTS FROM VCT RAPID TEST WITH THOSE FROM A STANDARD ELISA FROM A POPULATION COHORT IN TANZANIA

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Background: The backbone of HIV diagnostic testing in most African countries is the use of two rapid tests to ascertain those HIV positive. Many research surveys use ELISA assays to determine HIV status, but studies have shown that the cut-off for ELISA tests is critical to their performance. Rapid tests undergo quality assurance at the Tanzanian national laboratory.

Methods: In the 8th sentinel survey for HIV in the Magu health and demographic sentinel surveillance (HDSS), participants were offered free VCT testing using Determine (screening) and Unigold (confirmatory) rapid tests, and asked for a dried blood spot (DBS) sample for research purposes. DBS from all positive and 6% of negative on Determine are tested on ELISA (Vironostika HIV Ag/Ab) at a reference laboratory.

Results: Of the 9,036 respondents to 29th Jan 2016, 8,923 (99%) provided both rapid test result and blood sample. 642 of these (7.2%) were HIV positive on the combined rapid tests. 800 samples have so far been tested by both rapid test and ELISA, of which 474 were positive by both rapid tests. There was 92% agreement between the results.

The 471 positive on both ELISA and rapid test had a median standardized OD (OD/ cut-off) of 16.49 (IQR 14.75-17.61). The 62 negative on rapid test but positive on ELISA had a median standardized OD of 1.44 (IQR 1.20-2.57).

Conclusions: It is likely that non-specific reactions on ELISA are responsible for the Rapid test ‘false negatives’. Changing the ELISA cut-off to three times the manufacturer’s value, and treating standardized ODs ≥1 and ≤3 as indeterminate (N=53), increases the agreement between the tests to 97.9% (excluding indeterminates). Widespread use of the two rapid tests, with rigorous quality control in country, may provide a more accurate and truthful diagnosis for HIV than a ELISA test with a cut-off that is too low.
WEPEC146

LATIN AMERICA EXPERIENCE IN EXPANDING LARGE-SCALE ACCESS TO RAPID TESTING SERVICES IN PUBLIC SPACES

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Background: According to the data provided by the respective National AIDS Programs, it’s estimated that there are 460,784 people living with HIV in four Latin American countries: Argentina, Guatemala, Mexico and Peru. Of them, only 296,523 (67% average) know their HIV status. Hence in order to increase the number of people diagnosed, we planned and implemented an innovative campaign to conduct massive events with the use of rapid tests at strategic places within different cities in the studied countries.

Methods: We sought to identify and quantify the percentage of new HIV diagnoses and the number of new people accessing the HIV testing program. There were more than 1,064 events performed in all countries from Jan. 1, 2014 up to Dec. 31, 2015. All events were organized in open public spaces. We offered group pre-test information before formal testing. We used rapid tests from DETERMINE in Argentina, INSTI in Guatemala and Mexico, and ADVANCE in Peru. After each test, we offered individual post-test counseling. All tests were offered free of charge, and on voluntary and confidential basis. Each individual was also asked to fill out a written, anonymous, self-administered survey.

Results: 265,540 tests were conducted in all four countries. 126,338 men were tested (47.58%). Average age for all people tested was 29 years. There were 2,478 new HIV positive results identified. 1,435 of them (57.91%) with an average age of 29 years. In total, 168,429 (63.43%) tests were conducted among first-time testers. Of all positive results, 23.66% were among people who had never been tested before.

Conclusions: In order to accomplish the goal of 90-90-90 we need to increase access to testing that is convenient and quick. Our model has demonstrated that is suitable to be applied on a large scale, at a regional level, offering an easy way to get tested for first-time testers. We also found that prevalence level in the study was higher than the one estimated by UNAIDS with the Spectrum 4.47 model, which estimated that in 2011 the HIV prevalence in the region was around 0.3%-0.5% in people between the ages of 19 to 45.

WEPEC148

MODEL OF COMPREHENSIVE DIAGNOSIS OF STI AND HIV AMONG KEY POPULATIONS: THE IMPORTANCE OF COUNSELING AND ACCOMPANIMENT

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Background: Based on the 90-90-90 strategy, we need to design interventions range that can reach key populations most affected by the epidemic, to promote early diagnosis and early detection, but all income to access programs a comprehensive treatment is important to strengthen strategies to reach these people if we want to change the course of the epidemic.

Description: With 21 years of experience we developed an intervention model called CODISE counseling, diagnosis, monitoring and evaluation, conducting workshops on MSM gathering places, young men and young women in the streets and deprived of their liberty, Counseling and implementation of rapid testing and positive cases are made to sampling for WB confirmatory test and an appointment for delivery of results and counseling, then channeled and accompanying services of government attention to verify the programmed inclusion program and quality of care, receiving care in the organization in psychology, medical care, nutritional counseling and tanatología to help improve their quality of life. The program takes place in different areas of meeting key populations and public places, subway stations, schools, offices of civil organizations, prisons.
Lessons learned: With the financial support of CENSIDA a diagnostic program for HIV and other STIs, serving a total of 2,200 people who were made rapid HIV testing, syphilis, Hepatitis B and C, with 189 HIV positive cases resulting confirms confirmatory syphilis 82 to 37 to hepatitis B and hepatitis C 9, were provided with care and support achieving enroll 187 HIV-positive cases and other STI programs received government attention to their diagnosis. 60 percent women and 40% men between 19 and 47 years.

Conclusions/Next steps: This type of intervention tested to achieve early diagnosis and timely treatment of people who are admitted to government programs immediately with the support and care provided by the team of the organization that achieving the goal of the program can be included comprehensive care to maintain their quality of life and thus also contribute to the decrease in new infections and alter the course of the epidemic. Experience shows that counseling is critical to achieving adherence to treatment and comprehensive care and thus achieved the goal of fewer HIV infections.

METHODS FOR DETECTING ACUTE AND RECENT HIV INFECTIONS

WEPEC149

UNRECOGNIZED HIV INFECTION IDENTIFIED THROUGH RNA TESTING OF POOLED SERUM OBTAINED DURING DENGUE OUTBREAK IN SÃO PAULO, BRAZIL

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Background: Many acute virological infections show common clinical manifestations. As many symptoms of acute HIV disease may be confused with dengue, it is conceivable that some patients looking for clinical care during dengue outbreaks may actually represent incident HIV infections.

Methods: We accessed HIV RNA in pooled samples of seronegative dengue cases collected during the 2015 outbreak. Pools consisted of 20 serum samples, 100 µL each. Samples from patients with previous HIV diagnostic, identified through electronic systems of patients’ laboratory monitoring and/or drug dispensary were excluded. HIV RNA was evaluated with RealTime HIV (Abbott, USA). Samples included in pools with detectable HIV RNA were analyzed separately for HIV RNA, serology (Imunoblot DPP HIV 1/2-biomanguinhos, Brazil) and sequenced (partial pol from nested RT-PCR followed by Big Dye, Life, USA), evaluated at NCBI genotyping and Stanford HIVdb.

Results: Out of 3119 samples, 1143 tested dengue negative, 440 (39%) of those were tested for HIV in 22 pools. Four had detectable viremia and all negative pools were not detected, with no pool below the limit of detection (40 copies per mL). In three of these pools original samples showed high viral loads (5.85, 6.07 and 6.12 Log10), all subtype B, with one with the K103N mutation. No nucleotide ambiguities were observed in these 3 sequences. Serology was negative in 2/3 RNA positive samples, one was gp41 reactive. Four samples from positive pools were unavailable for further testing. 2 from the fourth positive pool and one each from other positive pools; all other samples tested as not detected. Assuming one positive sample for each reactive pool, a HIV prevalence of 0.91% can be estimated; 1.59% if all missing samples were positive.

Conclusions: Our study documents HIV infection among individuals looking for health care due to suspected dengue infection. High viremia, indeterminate or negative serology, lack of ambiguous nucleotides and no registry in electronic systems are compatible to acute phase, probable undiagnosed HIV infections. Besides the potential for monitoring the local epidemics, these cases represent missing opportunities of a more comprehensive health care that could both benefit patients and decrease transmission at this heightened infections phase.

NOVEL APPROACHES FOR HIV TESTING

WEPEC150

REACHING 90% TESTED: AN INNOVATIVE PROVIDER-INITIATED HIV TESTING MODEL WITH MODEST INCREASE IN STAFFING BRINGS HIV TESTING AND COUNSELING (HTC) TO SCALE IN 11 CLINICAL SETTINGS IN BUKOBA, TANZANIA

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Background: In many outpatient departments (OPDs), provider initiated HIV testing and counseling (PTC) is not available for all patients because of inadequate staffing and/or implementation. As part of the Bukoba Combination Prevention Evaluation (BCPE), a new PITC model was applied in OPDs in 11 facilities of Bukoba Municipality beginning October 2014. PITC indicators were compared one year before and one year after the new model was implemented.

Methods: Previously, PTC was provided by health care workers (HCWs) when they determined their patients would benefit from HIV testing. The BCPE-PITC model revised patient flow to ensure HIV testing was offered to all eligible clients without substantially delaying their OPD visit. To implement the new model, staffing at most clinics was increased by 1 HCW and 2 HIV-positive lay counselors (LCs). LCs conducted group pre-test counseling in waiting areas, individually screened all patients on their need for testing, and routed eligible patients to HCWs who conducted HIV testing in private areas (in Tanzania, only HCWs conduct HIV test procedures). After post-test counseling by LCs, patients were directed to resume their place in the clinic queue. HIV testing data were collected on monthly national and BCPE data-collection tools, and analyzed using Microsoft Excel.

Results: Compared with one year before, the fully staffed BCPE-PITC model yielded 4.3 times more HIV tests and 5.2 times more HIV-positive tests overall. Also, the model yielded 4.4 and 5.8 times more positive tests among males and females respectively (Table). Of the 1,951 HIV-positive clients identified through BCPE, 1,178 (91.4%) self-reported being out-of-HIV care, of whom 1,517 (85.1%) were newly HIV-diagnosed (never previously tested HIV-positive).

|
| PTIC Indicator | Total | Male | Female |
| 12 months prior to BCPE Oct 2013 - Sep 2014 | 376(4.4%) | 219(5.1%) | 157(3.7%) |
| Tested HIV-positive (% of total tests) | 1951(5.4%) | 684(5.6%) | 1267(5.2%) |
| HIV-positive, out-of-care (% of total tests) | Not available | 1783(4.9%) | 654(5.4%) |

Conclusions: A modest increase in staffing and an integrated PITC approach resulted in over four times as many HIV tests conducted, identified a higher percentage of HIV-infected patients, particularly among males, and a substantial prevalence of HIV-infected out-of-care persons. The model should be considered for scale-up in similar settings to help reach the first "90" of UNAIDS 90-90-90 targets.
WEPEC151
EVALUATING THE PROOFING OF LAY COUNSELORS CONDUCTING POINT OF CARE CD4 COUNT TESTS IN A RURAL COMMUNITY-BASED HIV SCREENING PROGRAM

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Background: Community-based voluntary counseling and testing is an innovative strategy to improve awareness of HIV status and linkage to care, particularly among hard to reach rural populations in resource limited settings. Expanding the role of community-based voluntary counseling and testing (CBVCT) to include POC CD4 testing offers potential benefits to HIV counselors and patients alike.

Methods: A team of nurses and HIV counselors provided health education and offered HIV testing at community congregate settings. Community members testing HIV positive were offered both standard nurse-performed phlebotomy for CD4 count, processed at the local district hospital by flow cytometry, and fingerstick capillary specimen collection by a nurse as well as an HIV counselor for CD4 count performed on site by portable PIMA technology.

Results: Among 249 HIV-infected study participants, 76% were female and median age was 34.4 (IQ 17-51) years. Fifty-four (22%) were evaluated at municipality level, 40 (16.1%) were employed in construction and 18 (7.2%) were other occupations. The mean median (IQR) of CD4 count was 433 (299-632) cells/ml. Acceptable Pearson correlation was found (0.84, p< 0.0001).

Conclusions: POC CD4 counts determined by lay counselors outside of health care settings compared favorably to results obtained by nurses and community-devised phlebotomized specimens processed at a hospital laboratory. HIV status and CD4 count can be determined in community settings in one session with appropriate referral to the next step in the cascade, whether for cryptococcal antigen test (CD4< 100), cotrimoxazole prophylaxis (CD4< 200), eligibility for ART (CD4< 500) or wellness care follow-up with Isoniazid Preventive Therapy (CD4>500). POC CD4 results permit the counselor to stress the urgency of referral especially for low CD4 count and prioritization of ART initiation, thus facilitating the cascade of care. The role of counselors can feasibly include POC CD4 testing.

WEPEC152
IS HIV SELF-TESTING ACCEPTABLE TO KEY POPULATIONS IN VIETNAM? RESULTS FROM A CROSS-SECTIONAL STUDY OF MEN WHO HAVE SEX WITH MEN, FEMALE SEX WORKERS AND PEOPLE WHO INJECT DRUGS

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Background: The HIV epidemic in Vietnam is concentrated among key populations (KP). Annual KP uptake of HIV testing through conventional testing services is low (~30%), posing a significant challenge to reaching 90-90-90 goals. Barriers to HIV testing include concerns regarding confidentiality of test result, long wait times, and travel/opportunity cost. Government leaders recognize the potential of HIV self-testing (HIVST) to accelerate testing uptake and case detection. Evidence is needed regarding acceptability of HIVST, test preferences and willingness to pay for HIVST among KP to inform pilot interventions and future guidelines.

Methods: We conducted a cross-sectional study from April-June 2015 among 1,296 people who inject drugs (PWID), 1,248 female sex workers (FSW) and 1,528 men who have sex with men (MSM) in six provinces. Sample size was calculated utilizing KP size estimations. Participants were recruited using respondent-driven sampling. Respondents were provided with standard information on HIVST and asked hypothetical questions including intention to use, test preferences, and WTP. Questions were part of larger survey assessing overall KP use, preferences and WTP for HIV goods and services.

Results: More than half of respondents reported intention to use an HIVST when available (55.6% FSW, 63.8% MSM, 69.3% PWID). Primary reasons for opting for HIVST were privacy (74.4%), confidentiality (63.7%) and rapid result (49.5%). The majority of those intending to use HIVST were willing to pay for the test (73.4% PWID, 92.0% FSW and 86.4% MSM). Respondents living in urban areas were statistically significantly more likely to report WTP (p< 0.001). MSM were willing to pay a significantly higher maximum price ($US$5.4) for HIVST than FSW ($US$4.3) and PWID ($US$3.9) (p<0.001). There were statistically significant differences in the HIVST type preferred by KP (blood-based versus oral fluid) (p< 0.001): 49.0% FSW, 46.7% MSM and 28.3% PWID stated preference for an oral HIVST; while 59.0% PWID, 42.9% FSW, and MSM/ 36.7% opted for the rapid blood-based assay.

Conclusions: Our study assessed the acceptability of HIVST as a strategy to improve awareness of HIV status and linkage to care, particularly among hard-to-reach rural populations in resource limited settings. Expanding the role of HIV counselors can feasibly include POC CD4 testing.

WEPEC153
EARLY WARNING INDICATORS OF PEDIATRIC ARV RESISTANCE IN KENYA: A MIXED METHODS STUDY

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Background: In Kenya, the pediatric population represents 10% of total HIV infections. Pediatric HIV patients are at greater risk for HIV drug resistance (HIVDR) than adults. The surveillance of WHO’s early warning indicators (EWIs), which are factors at ART clinics associated with HIVDR, is one strategy to combat HIVDR emergence. We assessed readiness of pediatric sites in Kenya to monitor EWIs and facilitators and barriers to EWI monitoring.

Methods: We conducted a mixed methods study in 23 purposively selected pediatric ART sites in 18 counties to assess readiness to monitor the five WHO EWIs: 1) on-time medication pick-up; 2) retention in care; 3) pharmacy stock-outs; 4) dispensing of mono-or dual-therapy; and 5) viral load suppression.

Readiness was defined as patient charts having the necessary information to calculate EWIs. Data collection methods included: surveys with pediatric providers (n=32); in-depth interviews (IDIs) with facility administrators (n=23); and chart abstractions of pediatric patients’ records ages 0-14. Descriptive statistics were generated for quantitative data and thematic content analysis was conducted for qualitative data.

Results: Twelve facilities (48.2%) were missing chart information to calculate EWI(1). IDIs revealed clinic forms lacked space to record vital patient information. Facility records had the necessary information for EWI(2). However, IDIs revealed patient retention is a problem; reasons include lack of staff/resources to trace patients. For EWI(3), two facilities experienced pharmacy stock-out in the last 12 months and 8% of providers agreed that stock-out is a problem. For EWI(4), 34% of providers reported ever prescribing mono-or dual-therapy. For EWI(5), 83.6% of facilities did not have sufficient viral load test results recorded and 80% of providers agreed that testing was not conducted on time. Administrators noted long turn-around times for viral load results were a barrier to care.

Conclusions: Results show a need for pediatric ART sites to strengthen record keeping in order to calculate and monitor EWIs. Several structural-level changes are needed to facilitate EWI monitoring including changes to medical forms and quick-turnd-around time of viral load test results. Capacity building for providers to understand the importance of monitoring EWIs is also needed.
SURVEILLANCE OF HIV FOR ADOLESCENTS AND ADULTS

WEPEC154

IMPACT OF PROVIDER-INITIATED HIV TESTING FOR CHILDREN ON BURDEN OF UNDIAGNOSED HIV

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Background: Provider-initiated HIV testing and counselling (PTC) is recommended for all individuals in high burden countries. We investigated the impact of an optimised PTC intervention for children aged 5–16 years on the community burden of undiagnosed HIV.

Methods: Opt-out PTC was offered at seven primary healthcare (PHC) clinics in Harare, Zimbabwe to all 6–15 year old attendees over a two year period. A population-based, confidential HIV prevalence survey was conducted following two years of implementation. With guardian consent all children aged 8–17 years (having had 2 years exposure to the intervention) in randomly selected households in the catchment areas of the seven PHCs were offered anonymised HIV testing using oral mucosal transudate (OMT) tests. Data on demographics, previous HIV testing and medical history were determined through interview.

Results: A total of 9655 HIV tests (80% of those eligible) were conducted at the PHCs over the two year period. A total of 7146 children in 4251 households enumerated were eligible for the prevalence survey; 256 (4%) declined consent, 1395 (20%) were unavailable at the time of the household visit. The median age in 5493 participants was 12 (IQR: 10–15) years and 53% were female. The adjusted HIV prevalence was 2.5%, with no difference by gender. Among the 135 children found to be HIV-positive 53% were undiagnosed.

Conclusions: This survey shows a high prevalence of undiagnosed HIV in adolescents, confirming other reports from the region. Almost half of the HIV-infected children remained undiagnosed despite exposure to PTC that achieved high testing rates. Facility-based HIV testing relies on individuals presenting to the facility and is insufficient to address the substantial burden of undiagnosed HIV among older children and adolescents and alternative, community-based testing strategies are urgently needed.

SURVEILLANCE OF BEHAVIOUR

WEPEC155

MEASURING CHANGES IN SEXUAL AND HEALTH BEHAVIOURS OF FEMALE SEX WORKERS AND THEIR ACCESS TO HIV SERVICES IN A SCALED UP TARGETED HIV PREVENTION PROGRAMS IN KENYA

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Background: Female sex workers (FSWs) in Kenya are characterized by high levels of risk in terms of the number of sexual partners, concurrency and low condom use with HIV prevalence rates at 29.3% (NASCOP 2013) among them. 133,675 FSWs are estimated (NASCOP 2012) to be in Kenya. Kenya has a scaled up HIV Prevention treatment and care for FSWs. National AIDS and STI Control Program Government of Kenya conducted two rounds of nationwide polling booth survey (PBS) in 2014 and 2015 to measure changes in behavior of FSWs as a result of program interventions and understand if the FSW programs are achieving their intended effects.

Methods: PBS is a group interview method, where individuals give their responses through a ballot box. Individual responses are anonymous and unlinked. Anonymity of the respondent improves reporting on sensitive and personal behaviors. Participants were selected using probability sampling and organized into small homogeneous groups of 10–12 people. Participants were also stratified by sex work typologies. 3351 FSWs from 11 selected counties participated in PBS with a consent rate of 95%.

Results: Condom use during last paid sex significantly increased from 87% to 93% (p<0.001). Consistent condom use with paying client significantly increased from 63% to 75% (p<0.001). Quarterly HIV testing significantly increased from 72% to 83% (p<0.001). FSWs experiencing current STIs significantly reduced from 24% to 22% (p<0.020). Condom use during last anal sex significantly increased from 40% to 53% (p<0.001). FSWs accessing Drop in Centre/Clinic every quarter significantly increased from 51% to 69% (p<0.001). HIV Positive FSWs enrolled in HIV Care significantly increased from 30% to 81% (p<0.001). FSWs facing physical or sexual assault significantly reduced from 23% to 18% (p<0.001). Condom use at last sex non-paying partner reduced from 54% to 53% though this was not significant.

Conclusions: Reporting to HIV programming needs of FSW at scale is key ingredient in national HIV response. As programs with key populations scale up in Kenya, it is important to measure KP programs effectiveness. Behavioral surveys like PBS that can measure sensitive behaviors should be part routine National program monitoring.

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SURVEILLANCE OF HIV DRUG RESISTANCE (INCLUDING IN PREP STUDIES)

WEPEC 158

RESULTS OF SURVEILLANCE OF HIV RESISTANCE IN PEOPLE STARTING ANTIRETROVIRAL TREATMENT IN ARGENTINA PERFORMED ACCORDING TO WHO STRATEGY

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Background: The emergence and transmission of HIV drug resistance (HVDR) may jeopardize the effectiveness of antiretroviral treatment (ART) programs. In Argentina, current guidelines recommend starting ART with NNRTI-based regimens, and pre-treatment drug resistance testing is optional. Currently, 70% of ARV initiators start with NNRTI-based regimens, the majority without previous resistance testing. The aim of this study was to determine the prevalence of resistance-associated mutations in people starting ART in Argentina, using a WHO-proposed methodology (PreTreatment Drug Resistance (PDR) Survey).

Methods: HIV RNA viral load was determined using WHO concept notes and using country-specific parameters. 30 ART-dispensing sites throughout the country were randomly chosen to enroll at least 330 persons starting ART (without prior exposure or re-starting ART); to generate a point prevalence estimate of resistance-associated mutations (RAMs) with a 5% confidence interval (for both the total population and for those without ARV exposure). All consecutive patients older than 18 years starting or re-starting ARV in the chosen clinics were enrolled, if provided informed consent. Samples were processed with Trugene (Siemens®), and analyzed using the Stanford algorithm “HIVdb Program, Genotype Resistance Interpretation” (Version 6.3.1).

Results: Between August 2014/March 2015, we obtained 330 samples from people starting ART in the selected sites. Mean(SD) age was 35(11.0) years; 63.4% were male; median(IQR) CD4 count was 275/mm³(106-461); and 16.6% had prior ARV exposure (of these; 71% received ART, 21% MTC treatment, 6% PEP). The prevalence of RAMs was 14% (±2.5%). According to drug class, 3% of the samples showed resistance to NNRTIs, 11% to NNRTIs and 3% to PI. Prevalence of resistance-associated mutations in those without prior exposure was 12% (±2.5%). 3% had RAMs to NRTIs; 10% had RAMs to NNRTIs, 2% had RAMs to PI. The most common mutations found were 103N, 190A, 41L and 101E (41%, 15%, 15% and 12% of those with RAMs, respectively).

Conclusions: This PDR surveillance study showed concerning levels of HIVDR in Argentina, especially to NNRTIs. Due to this finding, National guidelines will probably change. However, further analysis is needed to understand the potential impact of these figures, and to determine if introducing HIV genotyping before ART initiation would be a cost-effective intervention.

WEPEC 159

ESTIMATING LEVELS OF ACQUIRED AND TRANSMITTED HIV DRUG RESISTANCE IN HIGH HIV BURDEN DISTRICTS IN KWAZULU-NATAL, SOUTH AFRICA

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Background: The South African province of KwaZulu-Natal (KZN) has the largest burden of HIV infection in the country with ~850,000 persons on antiretroviral therapy (ART). Since 2008, moderate levels (between 5-15%) of transmitted HIV drug resistance have been detected among HIV-infected pregnant women in KZN. Routine HIV drug resistance testing is not typically provided for patients failing Non-Nucleoside Reverse Transcriptase Inhibitor-based regimens, or at regimen initiation. To monitor trends, in this analysis we assessed acquired (ADR) and transmitted (TDR) HIV drug resistance in treated and newly infected persons respectively.

Methods: Cross sectional analysis was performed on HIV positive samples obtained from the HIV Incidence Provincial Surveillance System, a household-based study designed to monitor HIV prevalence and incidence trends in the Vulindlela and Greater Edendale sub-districts ofUmngundlovu in rural KwaZulu-Natal. Self-reported ART use was determined by survey. Peripheral blood samples were tested for viral load and HIV infection using the LaG Avidity Assay. Genotyping of the HIV-1 polymerase gene was performed using a validated in-house method on samples with viral load of >500 c/ml, using nested PCR and Sanger sequencing technologies. Genotypic resistance was defined as the presence of resistance mutations associated with impaired drug susceptibility, using the Stanford Genotypic Resistance Interpretation Algorithm (http://hivdb.stanford.edu).

Results: Of the 1596 participants self-reporting to be on ART, 204 (12.7%) had HIV RNA viral levels >500 c/ml and were assessed for ADR. TDR was measured in 75 recently infected participants as determined by the LaG Avidity assay. Within this group of participants, 75% were female, and mean age was 23 years (IQR 19-28 years). Total HIVDR amplification rate was 94%. Resistance (NNRTI or NNRTI) was detected in 68% of patients failing ART and 10% of recent infections.

Conclusions: Preliminary assessments show moderate levels of TDR amongst participants from this rural community. In addition, the proportion of participants failing ART without resistant viruses (~30%) indicates high levels of non- adherence to ART in the community. These data highlight the need for programmatic improvements in adherence counselling to limit the future development and spread of both acquired and transmitted HIVDR.
SURVEILLANCE SYSTEMS AND METHODS

WEPE160
TRACKING PEOPLE ALONG THE HIV CARE CASCADE: A TOOL TO ASSESS, DEVELOP AND IMPLEMENT HIV CASE-BASED SURVEILLANCE IN HIGH PREVALENCE SETTINGS

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Background: World Health Organization (WHO) released new guidelines in 2015 recommending ten global indicators to collect information along the HIV care and treatment cascade as a principal way to track the epidemic and response, and measure progress towards UNAIDS’ 90-90-90 targets. As six of the ten indicators utilize data that originate from the surveillance process, testing and medical records, WHO recommends case-based surveillance (CBS) systems be developed to harness longitudinal clinical data in a format that makes it readily available for use as strategic information at the subnational and national levels. Few high-burden countries have CBS.

Methods: To identify systems that are context appropriate, feasible, scalable, and sustainable to implement CBS, it was determined to perform a situational analysis, or strengths, weaknesses, opportunities, and threats (SWOT) analysis, in select countries. A protocol was developed by a team of surveillance experts within the Measurement and Surveillance of HIV Epidemics (MsSH) Consortium. The protocol and tools were modeled from existing resources including: the Centers for Disease Control and Prevention (CDC) Updated guidelines for evaluating public health surveillance systems; WHO Evaluating a national surveillance system, and the National Alliance of State and Territorial AIDS Directors’/CDC Case-Based Surveillance Toolkit. The SWOT protocol includes three parts: 1) desk review of country specific HIV surveillance materials; 2) questionnaire for interviewing HIV-related stakeholders; 3) site visit checklist to observe data collection, collation and flow at the local, regional, and national levels. The protocol has been designed to be a comprehensive tool that can be modified for the particular focus of an assessment within different countries.

Results: Utilization of the SWOT protocol occurred in two ways:
1) In its entirety to conduct a comprehensive analysis of current electronic management record / surveillance systems in Tanzania; and
2) modular to conduct a focused analysis of specific functionality of current surveillance systems in South Africa and Kenya.

In both instances, themes were identified in system attributes such as data quality and availability, and the feasibility and readiness for CBS.

Conclusions: The SWOT protocol can be used to assist in determining a country’s readiness and strategy to develop CBS, as recommended by the WHO.

WEPE161
IMPLEMENTATION OF INTEGRATED HIV BIOLOGICAL AND BEHAVIORAL SURVEILLANCE TO MONITOR HIV PREVALENCE AND INTERVENTION OUTCOMES AMONG FEMALE SEX WORKERS OUTSIDE SEX ESTABLISHMENTS, THAILAND

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Background: In Thailand, a shift in female sex work (FSW) to outside establishments (NG) has designed to detect a 15% difference in HIV prevalence and behavior changes, using data analyzed using RDS Analysis Tool to generate descriptive statistics (percentage with 95% confidence interval).

Results: Decreased condom use during 2011 to 2015 was observed in Chonburi and Phuket, 92.1% (88.6-95.4) to 49.4% (41.1-57.7) and 96.6% (94.1-98.8) to 85.8% (79.9-91.7), respectively, but remained constant in Chiangmai at 92%. Increased HTCS access was observed in all guidelines, however the 2015 coverage was still not two-thirds [Chiangmai: 36.4% (30.6-43.5) to 55.2% (47.9-62.4); Chonburi: 34.7% (27.7-41.6) to 62.1% (55.7-68.5); and Phuket: 43.2% (37.0-50.2) to 66.1% (58.7-73.5). HIV and NG prevalence remained unchanged (Figure 1).

Conclusions: Although HIV and NG prevalence were not increasing, the below target achievement for condom use and HTC coverage is critical to informing program managers for an intensified community outreach with condom promotion and HTC recruitment. On-going IBBS-RRS is recommended to monitor the intervention responses among non-venue FSW not collected as part of routine surveillance or monitoring systems.

WEPE162
BIRTH OUTCOMES FOLLOWING ANTIRETROVIRAL EXPOSURE DURING PREGNANCY: RESULTS FROM THE FIRST YEAR OF THE SOUTH AFRICAN PREGNANCY EXPOSURE REGISTRY AND BIRTH DEFECT SURVEILLANCE SYSTEM

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Background: Following concerns about the safety of antiretroviral therapy (ART) in pregnancy, the National Department of Health initiated a pregnancy exposure registry and birth defects surveillance (PER/BDS) system in the eThekwini District, KwaZulu Natal in 2013. We describe the findings from the first year, focusing on the risk of adverse birth outcomes (ABOs) (birth defects (BD), stillbirths(SB), neonatal death(NND)) and low birth weight (LBW) in infants exposed to antiretroviral therapy (ART) during the first trimester (T1) compared to infants born unexposed HIV-infected and HIV-uninfected women.

Methods: Clinical and exposures medicine histories and birth outcomes from maternal interviews, institutional records of women who delivered at Prince Mshiyeni Memorial Hospital (PMMH) front/10/2013 to 6/10/2014 were analysed. A standardised neonatal surface examination was conducted on live and stillbirths of re-cruited women.

Results: Of the 14 587women delivering at PMMH, 10 417 (71.4%) were captured via the BDS system. 4013 (38.5%) were HIV-infected. 10417 deliveries yielded 10517 live births, 9928 (95.0%) NVD, 8 (0.8%) NND, 245 (2.3%) SB and 1307 (12.8%) LBW/weights (<2500g).HIV-infected women had a higher rate of LBW infants (14.5% vs. 11.0%; risk ratio: 1.33; 95% CI: 1.20-1.47). Among the 3930 (96.7%) HIV-infected women on ART during pregnancy, 517 (13.2%) definitely initiated ART in T1 and 4657 (96.8%) definitely did not. Among the 3436 (87.9%) definitely started ART, 163 (4.7%) clearly gained weight in T1 and 3273 (94.5%) clearly did not. The time of exposure in T1 was determined as follows: 3930 (96.7%) were definitely exposed in T1 and 164 (4.7%) definitely not exposed in T1. T1 exposure to NVP-based ART was associated with increased risk of LBW (RR 1.7; 95%CI:1.22-2.4).

Conclusions: None of the T1 ARV exposures were associated with SB or NNDs. However, T1 exposure to NVP was associated with increased risk of LBW (RR 1.7; 95%CI:1.22-2.4).

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**WEPEC 163
USING DATA TRIANGULATION TO INFORM GEOGRAPHIC PRIORITIZATION FOR PEPFAR TANZANIA: LESSONS LEARNED AND FUTURE DIRECTION**

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**Background:** Tanzania’s national HIV/AIDS prevalence is 5.1% (2012), but the burden varies geographically. PEPFAR 3.0 aims to strategically allocate resources at the subnational/district level in order to reach 80% of all PLHIV with treatment by 2020, to help meet UNAIDS Fast Track goals. In the absence of direct district estimates, we triangulated data sources to identify the best available method for geographic prioritization.

**Methods:** Three district-level data sources and methods were examined. First, Antenatal Clinic Sentinel Surveillance (ANC S5 2011) reports clinic-level HIV prevalence aggregated to the district. PrevR (2014), a UNAIDS geospatial model, uses survey data and geographic information to estimate HIV prevalence. Finally, PMTCT program data (2014) can be used to calculate HIV positivity rates as a prevalence proxy. We reviewed input data for completeness and timeliness and analyzed concordancy of estimates across data sources. Using PLHIV estimates derived from the most reliable method, districts were ranked from highest to lowest number of PLHIV. GIS was used to visualize and overlay estimates.

**Results:** Findings across methods were discordant. Differential coverage between district prevalences varied from 0.02 to 12.81 percentage points. ANC S5 was outdated and did not cover all districts. PrevR used outdated 2012 political boundaries and did not report estimates for new districts. PMTCT program data had reporting limitations, but it was the most timely and complete data source. We selected PMTCT program data to create HIV district estimates. Our analysis suggests that 80% of the PLHIV reside in 82 of 171 (48%) districts. Of 171 districts, 42 (25%) were selected for scale-up of testing and ART services, representing 55% of PLHIV in Tanzania (Figure 3).

**Conclusions:** Using mixed methods, we identified the best available data to geographically focus the Tanzania HIV program. All methods had limitations, highlighting the need for more complex modeling of the epidemic at a lower subnational unit.

[Figure 1. Shift in Geographic Prioritization, PEPFAR Tanzania 2014-2015]

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**POPULATION-BASED SURVEYS WITH HIV TESTING**

**WEPEC 164
NATIONAL SOUTH AFRICAN HIV PREVALENCE ESTIMATES ROBUST DESPITE SUBSTANTIAL TEST NON-PARTICIPATION: EVIDENCE FROM THE 2012 NATIONAL POPULATION-BASED SURVEY**

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**Background:** Valid national HIV seroprevalence estimates are crucial to planning responses to the HIV epidemic, notably in South Africa, the country with the highest number of people living with HIV. Current South African seroprevalence estimates arise from HIV household surveys which may, due to substantial non-participation, produce biased estimates. We evaluated whether unmeasured factors pre-disposing respondents to decline HIV tests were biasing South African national HIV seroprevalence estimates.

**Methods:** Data arose from the nationally-representative 2012 South African National HIV Prevalence, Incidence and Behaviour Survey. We jointly estimated regression models for consent to test and HIV status in a bivariate, Heckman-type probit framework that accounts for unobserved joint predictors of test consent and HIV status. We used assigned interviewer identity as a selection variable known to predict consent but unable to affect interviewees’ HIV status. From these models we estimated the HIV status of all interviewed participants, including those who did not test.

**Results:** Of the 26,710 interviewed participants invited to test for HIV, 21.3% of females and 24.3% of males declined. Interviewer identity was strongly correlated with consent to test for HIV, and destining a test to a female was associated with higher HIV infection. Our estimates were non-significantly different from previously reported figures for this survey: 15.1% vs. 14.5% for 15-49 year old males; 23.3% vs. 23.2% for 15-49 year old females. Our models suggested that HIV was less prevalent at peak ages but more prevalent in later life for males (see Figure). Similarly, in high-prevalence KwaZulu-Natal, HIV prevalence was estimated to be somewhat lower, and in low-prevalence Western Cape somewhat higher, than previously reported.

**Conclusions:** We conclude that the most recent HIV prevalence estimates in South Africa are robust under the strongest available test for missingness. Our findings provide support to the reliability of inferences drawn from these national survey estimates.

[HIV prevalence estimates from the 2012 HSRC Report and from Heckman-type probit selection model]
WEPEC165

THE PREVALENCE OF HIV INFECTION IN LARGE, TIME-LOCATION SAMPLE OF BLACK MSM WHO ATTEND BLACK PRIDE EVENTS IN THE UNITED STATES: RESULTS FROM PROMOTING OUR WORTH, EQUALITY, AND RESILIENCE (POWER)

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Background: Although multiple studies have documented very high prevalence and incidence rates of HIV infection among Black MSM (BMSM), few studies have attempted to recruit large samples of BMSM within community settings in order to characterize the HIV epidemic in this population. This analysis reports seroprevalence findings from POWER, a large epidemiological study of HIV infection among BMSM in the US.

Methods: POWER employed time location sampling (TLS) to recruit BMSM who attended Black Pride events in 6 US cities (N=3,426). Participants completed a behavioral health survey and were offered on-site HIV testing. HIV-positive men were identified either through self-report of seropositive status or through an on-site HIV test; negative men were identified through on-site testing only. After removal of individuals who were not part of the sampling frame (i.e., transgender women, duplicate participants, non-MSM, non-acceptance of HIV testing among men who reported negative status), we achieved an analytic sample of 2,391 men. Analysis was weighted to reflect TLS recruitment probabilities.

Results: The prevalence of HIV infection in this sample was 36%. Educational status (p=0.001), sexual identity (p=0.02), and age (p<0.001) were all significantly associated with prevalent HIV infection. HIV prevalence rose by age (Table 1).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-19</td>
<td>20.6 (12.1-33.1)</td>
</tr>
<tr>
<td>20-29</td>
<td>27.5 (23.4-30.8%)</td>
</tr>
<tr>
<td>30-39</td>
<td>34.8 (31.1-38.9%)</td>
</tr>
<tr>
<td>40-49</td>
<td>47.4 (40.3-54.4)</td>
</tr>
<tr>
<td>50-59</td>
<td>57.6 (46.5-68.1)</td>
</tr>
<tr>
<td>60-69</td>
<td>31.9 (22.9-59.6)</td>
</tr>
</tbody>
</table>

([Table 1: HIV Prevalence within age group among BMSM in the United States])

Conclusions: These data confirm earlier, small scale studies that used convenience sampling methods to confirm that BMSM in the US are at extraordinarily high risk for HIV acquisition, constituting one of the most heavily impacted populations in the world. Prevalence of HIV infection by age is consistent with an annual HIV incidence rate of 4.16%, which means that an explosive HIV epidemic among BMSM is now occurring in multiple major urban settings in the US. Only a concerted effort that combines behavioral, HIV treatment and PrEP/PEP programs will prevent new generations of young Black MSM from becoming infected with HIV in the U.S.

WEPEC167

AWARENESS AND PREVALENCE OF HIV AND STI AMONG FEMALE PARTNERS OF MSM IN ABUJA, NIGERIA

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Background: Given the stigma and discrimination against men who have sex with men (MSM), many MSM retain sexual relationships with women who may be unaware of their male partners’ sexual practices. Preliminary data from the TRUST cohort study suggests that 60% of MSM in Nigeria reported having female partners, and here we report on the awareness and prevalence of HIV/STIs among this vulnerable population.

Methods: From August-December 2015, the Bridging TRUST pilot study recruited 55 confirmed female partners of MSM. TRUST participants who previously reported having female partners chaperoned 1 or more of their main and casual female partners to a women’s clinic focused on reproductive and comprehensive HIV prevention and care services. Participants completed a structured survey instrument and clinical testing for pregnancy, HIV, Neisseria gonorrhoea, and Chlamydia trachomatis. Diagnosed infections were treated with antiretroviral and/or antibiotic therapy as needed. Descriptive data on demographics, awareness of HIV/STIs, and the prevalence of MSM among their female partners were obtained using female partners as the primary sampling unit. The prevalence of HIV among female partners was determined using HIV sero-testing.

Results: Recruited women had a median age of 25 years (IQR: 22-28), few were Muslim (7%), and one-fourth were married or cohabitating with a man. Overall, awareness and discussion of HIV/STIs was relatively high. Women reported having tested for HIV (79%), having tested for STIs (37%) and over half were currently worried about their HIV status (56%). The majority of women reported having only main partners (61%) who they openly discussed their partner’s HIV status (59%) or their own status (59%). For casual partners, they were less likely to discuss their partner’s HIV status (9%) or their own status (5%). The baseline prevalence of HIV was 7.3% and fewer had an STI infection (4%).

Conclusions: The HIV prevalence among female partners of MSM remains higher than the national prevalence of 4% in Nigeria. Those most likely recruited into care openly discussed HIV/STI risk with their main partners and engaged in prior HIV/STI testing. When recruitment relies heavily on the MSM partner, alternative recruitment strategies are needed for the partnerships with a less open dialogue about HIV/STI risk.
WEPEC168
WHAT DO KEY STAKEHOLDERS THINK ABOUT HIV SELF-TESTING? ANALYSES OF QUANTITATIVE AND QUALITATIVE FINDINGS FROM A CANADIAN NATIONAL SURVEY

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Background: Approximately 21% of people living with HIV in Canada remain undiagnosed. Stigma, social visibility, privacy, and long wait times impede access to HIV testing in health facilities, for which HIV self-testing presents an empowering alternative. Since Canada has yet to approve HIV self-tests, we surveyed key stakeholders engaged with HIV testing initiatives, to identify the opportunities and challenges of implementing HIV self-testing in Canada.

Methods: An online survey was disseminated via email by the CIHR REACH 2.0 POCT working group to stakeholders (clinical providers, public health and laboratory professionals, researchers, community-based organizations) involved in HIV testing across Canadian provinces. Questions covered the perceived needs, benefits, challenges, concerns, and areas for action. Open-ended questions and comments were analyzed via qualitative content analysis; accommodating a mixed-methods, respondent-informed approach.

Results: 183 stakeholders responded to the survey and their responses were grouped into major themes:

1) Needs and benefits: 65% of respondents felt that self-tests should be made available to their clients, conditional on the context of usage, clientele, post-test counseling and care. 71% of respondents felt that investment in self-testing is necessary to reach the undiagnosed, and 72% agreed that self-test instructions require improvements for linkages to treatment and counseling.

2) Concerns and challenges: Concerns about test accuracy, execution, costs, and misinterpretation of results, were highlighted. Emotional instability and coping mechanisms in the absence of counselors were perceived as potential harms. 60% of respondents agreed that clients who self-test false-negative will be less likely to engage in care. 58% felt that operationalizing linkage to care was the largest challenge associated with HIV self-testing. 42% of respondents felt their clients would be open to using innovative internet and mobile phone applications for linkages, but some may lack access to mobile devices. Respondents (21%) urged for timely action and approvals for HIV self-tests.

Conclusions: This survey, the first of its kind, demonstrated that key stakeholders are interested in having the option of self-tests for HIV testing in Canada, for reaching the undiagnosed. Concerns regarding linkages to care and counseling, test accuracy and costs, must be addressed before widespread implementation of HIV self-testing in Canada.

WEPEC169
HIV TESTING Triples Over Five Years Surveillance Among HIV-negative female Sex workers in Iran: the Findings of a Biobehavioral Survey in 2015

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Background: HIV testing practices of Iranian Female sex workers (FSWs) have been shown to be low due to individual- and structural-level barriers to testing. Given the recommendations on frequent HIV testing among FSWs, we aimed to estimate prevalence of HIV testing in a national sample of FSWs.

Methods: Facility-based (n=1173) and outreach (n=152) FSWs were recruited from 13 cities in 2015. FSWs aged ≥18 years with a history of selling sex to multiple clients in last year, were recruited. For the current study, only HIV negative FSWs’ data were analyzed. Recent HIV testing was defined as having tested for HIV and received the results in last year. FSWs who did not answer this question were excluded. Reasons for HIV testing and not-testing were also recorded. Behavioural data was collected via a standardized questionnaire. The proportion of HIV testing in different levels of predictors was compared using Chi square test.

Results: Out of 1310 HIV negative FSWs, 80.6% (95% CI: 81.5, 92.4) had ever tested for HIV. Out of 1049 eligible FSWs, 88.0% (95% CI: 81.5, 92.4) had a recent HIV test. Common reasons for HIV testing were being concerned about their HIV status (82.9%) and advised by health workers (36%). However, main reasons for not tested for HIV among those who did not get tested were no self-perceived risk for HIV (32.5%), not knowing an HIV testing site (28.5%), and not having enough time (21.1%). Being recruited through facilities (88.8%), unstable housing (93.8%), having more than five paying partners (93.2%), health care services utilization (89.1%), and receiving free condom in the past year (89.9%) were significantly associated with recent HIV testing. Additional analyses on the determinants of HIV testing will be presented.

Conclusions: In comparison with the previous round of HIV surveillance among FSWs in Iran, the prevalence of HIV testing has tripled(27.5% in 2010). While these findings are promising and show improvement over a short period of time, scaling up rapid HIV testing should be continued, particularly among outreach FSWs.

WEPEC170
HIV and Syphilis among Female Sex Workers (FSWs) in Zambia: Results of Behavioral & Biologic Surveillance Survey 2015

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Background: The study was carried out to estimate prevalence and incidence of HIV and syphilis among FSWs. According to the 2013-14 Zambia Demographic and Health Survey, HIV prevalence in Zambia is 13% (15% women, 11% men) aged 15-49 years. Prevalence is not known among FSWs.

Methods: This was a cross sectional study done August and September 2015 in 5 districts of Zambia. Time location approach was used to recruit FSWs in brothels, bars and on the streets. A questionnaire was administered and blood was drawn after informed consent. Qualitative syphilis test using RPR and rapid HIV test using Determine and Unigold was performed in the field. Results were given to the participants the following day at a health facility. HIV and syphilis positives were referred for management. Quantitative RPR test was done at a Referral laboratory on reactive plasma. Tie breaker was performed on HIV discrepant results using Western Blot. HIV positive plasma was subjected to HIV incidence test using sedia LaG Avidity EIA. Chi-square tests was used to compare proportions in HIV-positive and negative individuals.
Conclusions: Prevalence of HIV and syphilis is 3 times higher in FSWs compared to 2013-14 ZDHS estimate of 13% in general population. A concurrent syphilis epidemic was ongoing. Median age was 26 years, education was 9 years. Overall, HIV prevalence was 56%; 1.6% were determined to have recent infection (118-142 days). Syphilis prevalence was 21%. HIV positive FSWs were older compared to negatives; median: 28 vs. 23 years (<p >0.001). HIV positivity was higher among those with syphilis than without, 30.2% vs. 8.9% (<p >0.001). HIV positivity was higher in those who consumed alcohol daily, compared to counterparts reporting no drinking.

Results: Consenting FSWs≥18 years who reported sex trade with multiple male clients in the past year were recruited through facilities and outreach from 21 sites in 13 cities. Using a standardized questionnaire, FSWs’ condom use with paying and non-paying partners was recorded. This study aimed to assess condom use practices and reasons for protected or unprotected sex among FSWs in 2015 in Iran.

Methods: Consenting FSWs≥18 years who reported sex trade with multiple male clients in the past year were recruited through facilities and outreach from 21 sites in 13 cities. Using a standardized questionnaire, FSWs’ condom use with paying and non-paying partners was recorded. This study aimed to assess condom use practices and reasons for protected or unprotected sex among FSWs in 2015 in Iran.

Results: Out of 1337 FSWs, 96% knew a place to get male condoms. However, 59.1% (95CI: 47.7, 69.6) reported using male condoms in their last sex with a client. Of whom, 89.3% (95%CI: 83.1, 93.7) reported preventing HIV/STIs as the main reason for using a condom. Conversely, client dissatisfaction was the main reason of condom non-use paying sex (44.7%, 95%CI: 37.5, 53.9). Condorn negotiation was initiated mainly by FSWs (72.2%, 95%CI: 60.3, 81.6) and rarely by clients (8.9%, 95%CI: 5.2, 14.9). Condom use at last sex with a non-paying partner was reported by 43.3% (95%CI: 32.0, 55.3) of participants; Main reasons for condom use and non-use with non-paying partners were reported as HIV/STIs prevention (84.2%, 95%CI: 74.7, 90.6) and partner refusal (44.1%, 95%CI: 32.1, 56.8), respectively. Decisions over condom use were mainly made by FSWs (69.3%) and seldom their non-paying partners (8.9%). Only 9.5% (95%CI: 5.0, 17.4) of cases declared condom unavailability and just 0.3% stated condom unaffordability as the reasons for condom non-use.

Conclusions: Although condoms are freely available in all harm reduction centers in Iran, FSWs’ condom use practices remains low with both paid and non-paid partners. Since the main reason for condom non-use is partner refusal, further programs catered towards improving FSWs’ condom negotiation skills as well as educating their clients about the importance of protected sex are recommended.
Results: Of 53,227 adult residents aged 15–59 years, 25,344 (48%) tested for HIV, of whom 5,119 (20%) tested HIV-positive. Proportionally more females than males (52% vs. 41%) and more older than younger adults (50% of 25–59 year-olds vs. 45% of 15–24-year-olds) tested for HIV. Among identified PLHIV, 81% were female and median age was 36. Of PLHIV, 3,179 (62%) had been previously diagnosed, 3,092 (60%) were ever in HIV care, 2,946 (58%) received HIV care within 90 days, and 2,587 (51%) were on ART. Patient-reported ART uptake was confirmed in 85% of cases by observing ART pill bottles. ART coverage was lower in younger than older adults with 29%, 45%, 58%, and 61% of adults aged 15–24, 25–34, 34–44, and 45–59 years, respectively, taking ART (p< 0.001). ART coverage was lower in males than females among residents aged 15–24 (36% vs. 50%, p< 0.001), but similar between males and females aged 45–59 years (62% vs. 60%, p=0.517). ART coverage was lowest among males aged 15–24 (20%) and 25–34 years (28%) compared with any other age-stratified gender group.

Conclusions: Low ART coverage overall (51%) and very low coverage among young adults, especially young men, with ART to improve epidemic control.

WEPEC174
"REACHING THE HIGHER HANGING FRUITS": RESULTS FROM MULT-YEAR NATIONAL CROSS-SECTIONAL SURVEYS ON VMMC FOR HIV PREVENTION UPTAKE AND BEHAVIOURAL DETERMINANTS IN ZIMBABWE

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Background: Following WHO recommendations, Zimbabwe embraced voluntary medical male circumcision (VMMC) as a constituent of HIV prevention strategies in 2009. Being a non-circumcising country with an MC prevalence of 10% without wide regional differences, VMMC represented a foreign concept for Zimbabweans. In support of the MoHCC, PSI implemented the national communications strategy to increase demand for VMMC through both mass media and interpersonal communication channels. We conducted three bi-annual national surveys to monitor circumcision coverage, knowledge and behavioral factors towards VMMC uptake.

Methods: We analysed data from three national cross sectional household surveys conducted among adults aged 15 to 49 years. A baseline survey was conducted in 2010 (n=2770), followed by two surveys in 2013 (n=2350) and 2015 (n=3467). Data on male circumcision status, knowledge, perceived availability of services and intention of taking up VMMC were collected through individual interviews using structured questionnaires. The interviews were conducted by trained field interviewers and analysis of variance (ANOVA) was run on the parameters to determine changes over time using STATA Version 13.

Results: At baseline in 2010, 11.2% males reported being circumcised. Circumcision uptake increased from 11.8% in 2013 to 24.5% in 2015 (p<0.001). VMMC knowledge increased from 58.3% at baseline to 61.0% and 84.2% in 2013 and 2015 respectively, (p<0.001). Perceived availability of VMMC services increased significantly from 68% in 2013 to 73% in 2015, (p<0.001). Intention to go for circumcision increased initially from 59% at baseline to 63% in 2013 and then decreased to 40% in 2015, (p=0.001).

Conclusions: Knowledge about VMMC and uptake and perceived availability of services increased over time reflecting the impact of demand creation and scaling up of services in Zimbabwe. The initial increase in intention to go for VMMC implies that demand creation was effective to motivate early adopters. More research needs to be conducted to better understand barriers to uptake and identify ways to address these among those segments of males still reluctant to get circumcised.

WEPEC175 USING PROGRAM EVALUATION DATA TO DESIGN STRATEGIES FOR IMPROVEMENT OF HIV EXPOSED INFANTS DIAGNOSIS (EID) OUTCOME AT HEALTH FACILITIES IN EAST CENTRAL UGANDA

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Background: The ultimate outcome of Prevention of mother-to-child transmission (PMTCT) of HIV intervention is to achieve a HIV negative child after the mother having gone successfully through the program. However, over the past years, HIV positivity rates in EID in East Central Uganda has remained above the national target of 5% despite of numerous interventions that have been put in place (HMIS 2013-2015).

Methods: In 2015, the STAR-EC project, funded by USAID and implemented by JSI and its partners conducted an EID outcome evaluation to establish the factors that are responsible for high HIV positivity in EID in the region so as to improve the existing PMTCT / EID strategies or design new ones. The evaluation involved a mix of quantitative and qualitative methods whereby records of 98 HIV positive infants and their mothers were reviewed for a period of one year; April 14 - March 15 and key informant interviews held with service providers at sampled health facilities. Only health facilities with HIV positivity rates above 5% were assessed.

Results: Through the evaluation, a number of factors were identified which include late or no presentation of mothers for ANC and PMTCT (only 19% of the mothers of the 98 HIV+ infants attended ANC), high rate of home based deliveries, client lost to follow up, late enrolment of children for EID, lack of male involvement and lack of adherence to treatment by HIV positive pregnant women. Based on the findings, the following strategies were designed /strengthened; community sensitization, client follow up by VHFs and community mentor mothers, community mapping and referral of pregnant mothers for ANC by VHFs, option b+ campaign and HIV testing at mother baby care points.

Trend analysis of data from HMIS (2012-2015) indicates that of the 2,578 infants tested for HIV in 2012, 10% were HIV positive as compared to 6.7% (n=2,780) positivity rate registered in 2015 which improvement can partly be attributed to the implementation of the above strategies.

Conclusions: Using evidence from evaluation is critical as elaborated above. This therefore calls for projects to prioritize evaluation studies for better programming and program improvement.

WEPEC176 IDENTIFYING PRIORITY SUBPOPULATIONS AND GEOGRAPHIC VARIATION IN PREVENTION THROUGH COMMUNITY LEVEL ESTIMATES OF GLOBAL AIDS RESPONSE PROGRESS REPORTING INDICATORS IN NAMIBIA’S HIGHEST PREVALENCE REGION

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Background: Use of subnational data to identify geographic variations and priority subpopulations for prevention is recommended by UNAIDS. However, these data are often scarce. We produced community-level estimates of standardized global AIDS response progress reporting (GAPR) prevention indicators in Namibia’s high prevalence region.

Methods: A cross-sectional, household survey was conducted from 12/2014 - 7/2015 in five purposefully selected sites of Namibia’s Zambezi region. Individuals aged ≥15 years completed interviews and received rapid HIV testing and counseling. Point Estimates of HIV prevalence and select prevention indicators were calculated and statistically significant demographic correlates of each were identified using multivariable logistic regression analysis.

Results: We enrolled 2,163 persons (66.3% participation), of whom 1,312 (60.7%) were female and 790 (36.5%) were youth (< 25 years). HIV prevalence among youth...
was 9.1% (95%CI: 7.2-11.3) and significantly higher among female youth vs. male youth (adjusted odds ratio [AOR]: 3.50, P=0.002) and those age 20-24 years vs. age 15-19 (AOR: 2.77, P<0.001). Multiple sex-partners was 7.5% (95%CI: 6.4-8.7) and significantly higher among males than females (AOR: 3.82, P<0.003) and those not-married/cohabitating vs. married/cohabitating (AOR: 2.23, P<0.03). Condom use at last sex among those with multiple sex-partners was 55.7% (95%CI: 47.6-63.6) and significantly lower among non-youth (≤25 years) vs. youth (AOR: 0.49, P<0.02) and married/cohabitating participants (AOR: 0.17, P=0.01). HIV serostatus awareness was 39.3% (95%CI: 37.0-41.1) and significantly lower among males (AOR: 0.43, P<0.001) and non-youth (AOR: 0.54, P<0.02).

Conclusions: Our results describe significant population heterogeneity in prevention indicators within Namibia’s highest prevalence region. Nearly one in ten youth were HIV positive, and the likelihood of infection increased between the late-teen and early twenty years, suggesting high incidence and need for enhanced prevention focus among youth. Older and married adults with multiple sex-partners were less likely to use condoms, highlighting points of vulnerability for infection among older adults. Males were less likely to be aware of their serostatus and have only one sex-partner, suggesting that their behavior is a primary driver of HIV infection in the region. Community level estimates such as ours can be used in geographically heterogeneous epidemics to target resources and interventions where most needed.

WEPEC177
HOW POSSIBLE IS REPLACING ANC HIV SENTINEL SURVEILLANCE WITH THE PMTCT PROGRAMME DATA IN A RESOURCE CONSTRAINED NATION?

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Background: HIV prevalence is measured in Nigeria through biennial sentinel surveillance conducted among pregnant women (PW) attending antenatal clinical surveillance (ANC) at the 160 sentinel sites using unlinked anonymous testing (UAT). This periodic exercise has been considered expensive and irregular. As a result, some authorities advocated for replacement of the ANC HIV sentinel surveys (ANC HSS) with the routine PMTCT data. Currently in Nigeria, using PMTCT data in place of ANC HSS in determining HIV prevalence may have some inadequacies as a result of poor quality data and weak M & E system.

Methods: PMTCT data within the same period of the ANC HSS was abstracted from the PMTCT registers and the results were compared with that of ANC HSS. The consent rate which is defined as, “the number of PW sampled by ANC HSS who consent to PMTCT HIV testing over the total number of PW sampled by ANC HSS” was calculated. The calculation of the consent rate was restricted to sites offering PMTCT services and have data. The Non consent bias, differential prevalence ratio and level of agreement between ANC HSS and PMTCT HIV testing data were also determined.

Results: The findings show that the national prevalence from the ANC HSS is 3.0% compared with the 2.0% (95% Cl: 0.0 - 10.2) from the PMTCT routine data. The number of PW sampled by ANC HSS who consented to PMTCT HIV testing was 18,037 when compared with 32,085 pregnant women sampled by ANC HSS making the consent rate 56.2%. There was no PMTCT data in 52 (32.5%) sentinel facilities and the highest facilities with missing data occurred in the North west west and least (8%) in the south west zone. In many of the sites, there were incomplete documentation and data quality issues.

Conclusions: Much as it seems cheaper to replace the ANC HSS with PMTCT data for estimation and modeling, this may not be so soon visible without strengthening prevention focus among youth. Older and married adults with multiple sex-partners were less likely to use condoms, highlighting points of vulnerability for infection among older adults. Males were less likely to be aware of their serostatus and have only one sex-partner, suggesting that their behavior is a primary driver of HIV infection in the region. Community level estimates such as ours can be used in geographically heterogeneous epidemics to target resources and interventions where most needed.

WEPEC178
ESTIMATING HIV PREVALENCE FROM DATA ON FALSE POSITIVES IN SCREENING PROGRAMS: IMPLICATIONS FOR 90-90-90

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Background: A goal of the UNAIDS 90-90-90 strategy is to ensure that, by 2020, 90% of people living with HIV know their HIV status. Estimating HIV prevalence among people eligible for screening allows assessment of how many additional HIV positives might be diagnosed through continued screening efforts in this population. This, in turn, could help inform decisions about how best to focus resources within a country’s 90-90-90 strategy.

Methods: We developed statistical methods for estimating HIV prevalence from data on false positives in a sample of individuals who tested positive on a screening test with known sensitivity and specificity. We applied these methods to screening data on ART-naive adults in Switzerland from 2014 to 2016. Participants were screened using a rapid test with sensitivity=99.0% and specificity=99.1% as given by conservative published estimates. Among those testing positive, viral load (VL) was measured by rt-qPCR. Those with VL<100 copies/mL, the lower detection limit, were classified as false positives.

Results: 140 of 1778 (7.9%) test positives had VLS below the lower detection limit. Based on these results, we estimated the HIV prevalence among the population eligible for screening to be 10.6% (95%CI: 8.9% to 12.2%). This estimate was sensitive to assumptions about the properties of the screening algorithm. If WHO minimum standards for sensitivity (99%) and specificity (98%) were used instead of the published estimates, the estimated prevalence among those screened increased to 19.1% (95%CI: 16.4% to 21.8%).

Conclusions: We have developed methods for estimating HIV prevalence from data on false positive HIV tests. Data of this type are often collected in screening programs that seek gold-standard verification of all, or a subsample of, positive tests. In this context, our methods provide an estimate of HIV prevalence in the population being targeted for screening. If the estimated prevalence is unexpectedly low, this could mean that continued intensive screening efforts in this population are an inefficient use of resources. Alternatively, the accuracy of the screening test as implemented in the field may be lower than assumed.

WEPEC179
LAY COUNSELOR REDEPLOYMENT IN KWAZULU-NATAL, SOUTH AFRICA, LEADS TO CONSIDERABLE DROP IN HIV TESTING

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Background: In settings such as KwaZulu-Natal, South Africa, an area with both a high HIV burden and severe health worker constraints, lay counselors have played a critical role in the provision of HIV testing and counseling services as well as adherence counseling. At the end of 2014, the KwaZulu-Natal Department of Health announced the phasing out of the cadre of lay counselors, with the stated aim of retraining and identifying new careers for these individuals. In the uMlalazi municipality, where Médecins Sans Frontières (MSF) works in collaboration with the local Department of Health in delivering HIV treatment, lay counselors have been withdrawn from 9 clinics in two waves: Jan 5th, 2015 (CW1) and June 15th, 2015 (CW2). This stepwise counselor withdrawal provides an analytical opportunity to examine the impact of this change in health worker capacity on the total number of clinic-based HIV tests.

Methods: We used clinic-level fixed effects analysis with data on monthly HIV testing rates from the national South African electronic HIV treatment records system (TIER.net) from August 2014 - December 2015. Clinic-level fixed effects and control variables might be diagnosed through continued screening efforts in this population.

Results: We observed over 16,000 tests (7020 tests administered 5 months pre-CW1, 140 tests administered 5 months post-CW1 / pre-CW2, and 4645 tests administered post-CW2). Following CW1, the monthly average of HIV tests decreased 25% and following CW2 the monthly average decreased a further 13%. After controlling for clinic-level fixed effects and months, we found that having one less counselor is associated with 28 fewer tests per month (95% CI: 22.19 to 34.37).
Background: Understanding patterns of CD4 immune recovery among individuals on antiretroviral therapy (ART) is important, with increasing emphasis on viral load (VL) monitoring and selective CD4 testing. South Africa’s National Health Laboratory Service archives millions of CD4 and VL test results. At present this source of strategic data is underused due to difficulties in linking test results back to individual patient data. Using the NHLS database and a linking algorithm, we undertook the largest ever national analysis of CD4 immune recovery among ART patients.

Methods: A probabilistic matching algorithm was used linking routinely collected CD4 count and VL data (2010-2014) to unique individuals ≥15 years. Individuals with ≥1 VL and ≥2 CD4 count results were included. Immune recovery was defined according to different CD4 thresholds: achieving CD4 counts of ≥200, ≥350 and ≥500 cells/mm$^3$ after ART initiation. Time to recovery was estimated using survival analysis. Multivariate modified-Poisson regression was used to estimate differences in recovery according to age, sex, CD4 count at ART initiation (baseline) and VL suppression.

Results: The cohort included 1,070,900 individuals [4,367,924 CD4 tests, 70% female, median follow-up 24 months, age 44 years and baseline CD4 count ≥213 cells/mm$^3$ after ART initiation. Time to recovery was estimated using survival analysis. Cox proportional hazards regression models were developed with early ART as the outcome and the following factors included as a random intercept. Significant covariates (p<0.05) were used to fit a multivariate model. At least 36% of ART patients with HIV against HIV-related morbidity and mortality (START). Early treatment is now also a cornerstone of HIV prevention (HPTN 052). We determined changes in the probability of early treatment among a cohort of people newly diagnosed with HIV attending Australian sexual health clinics (SHCs) from 2004-2014.

Methods: Longitudinal data from 42 SHCs were analysed. The cohort included new HIV diagnoses between January-2004 and June-2014. Early ART was defined as commencing within 6 months of diagnosis. Bivariate mixed effects logistic regression models were developed with early ART as the outcome and the following covariates: age, sex, HIV transmission risk, geographical remoteness, nadir CD4+ cell count, plasma HIV load (VL) at diagnosis, Hepatitis B surface antigen and Hepatitis C antibody status. We adjusted all analyses for time period. Clinic was included as a random intercept. Significant covariates were used to fit a predictive multivariate model.

Results: A total of 720 new HIV diagnoses were included in analyses. The majority of diagnoses were male (95%), and men who have sex with men (82%) with a median age of 34 years (interquartile range [IQR]=27-43). The median CD4+ cell count at diagnosis was 362 cells/µl (IQR: 252-510). Early ART initiation rates increased significantly over-time: 17% in 2004-6, 26% in 2007-8, 42% in 2010-12 and 53% in 2013-14 (p<0.001). In a multivariate model increased probability of early treatment was associated with increased age (p=0.032); lower CD4+ cell count (p=0.001); higher VL (p=0.029); and later time period (p=0.001) (Figure 1).

Conclusions: These findings suggest that the counselor withdrawal substantially decreased clinic-based HIV testing. If these findings are representative of the experience province-wide, they illustrate how lay counselor withdrawal may jeopardize efforts to deliver the UNAIDS 90-90-90 strategy.

WEPEC180
DETERMINANTS OF CD4 IMMUNE RECOVERY AMONG INDIVIDUALS ON ANTIRETROVIRAL THERAPY IN SOUTH AFRICA: A NATIONAL ANALYSIS

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Background: Early initiation of antiretroviral therapy (ART) protects people living with HIV against HIV-related morbidity and mortality (START). Early treatment is now also a cornerstone of HIV prevention (HPTN 052). We determined changes in the probability of early treatment among a cohort of people newly diagnosed with HIV attending Australian sexual health clinics (SHCs) from 2004-2014.

Methods: Longitudinal data from 42 SHCs were analysed. The cohort included new HIV diagnoses between January-2004 and June-2014. Early ART was defined as commencing within 6 months of diagnosis. Bivariate mixed effects logistic regression models were developed with early ART as the outcome and the following covariates: age, sex, HIV transmission risk, geographical remoteness, nadir CD4+ cell count, plasma HIV load (VL) at diagnosis, Hepatitis B surface antigen and Hepatitis C antibody status. We adjusted all analyses for time period. Clinic was included as a random intercept. Significant covariates were used to fit a predictive multivariate model.

Results: A total of 720 new HIV diagnoses were included in analyses. The majority of diagnoses were male (95%), and men who have sex with men (82%) with a median age of 34 years (interquartile range [IQR]=27-43). The median CD4+ cell count at diagnosis was 362 cells/µl (IQR: 252-510). Early ART initiation rates increased significantly over-time: 17% in 2004-6, 26% in 2007-8, 42% in 2010-12 and 53% in 2013-14 (p<0.001). In a multivariate model increased probability of early treatment was associated with increased age (p=0.032); lower CD4+ cell count (p=0.001); higher VL (p=0.029); and later time period (p=0.001) (Figure 1).

Conclusions: These findings suggest that the counselor withdrawal substantially decreased clinic-based HIV testing. If these findings are representative of the experience province-wide, they illustrate how lay counselor withdrawal may jeopardize efforts to deliver the UNAIDS 90-90-90 strategy.

WEPEC181
EARLIER INITIATION OF ANTIRETROVIRAL THERAPY IN A NATIONAL COHORT OF PEOPLE NEWLY DIAGNOSED WITH HIV ATTENDING AUSTRALIAN SEXUAL HEALTH CLINICS

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Background: Early initiation of antiretroviral therapy (ART) protects people living with HIV against HIV-related morbidity and mortality (START). Early treatment is now also a cornerstone of HIV prevention (HPTN 052). We determined changes in the probability of early treatment among a cohort of people newly diagnosed with HIV attending Australian sexual health clinics (SHCs) from 2004-2014.

Methods: Longitudinal data from 42 SHCs were analysed. The cohort included new HIV diagnoses between January-2004 and June-2014. Early ART was defined as commencing within 6 months of diagnosis. Bivariate mixed effects logistic regression models were developed with early ART as the outcome and the following covariates: age, sex, HIV transmission risk, geographical remoteness, nadir CD4+ cell count, plasma HIV load (VL) at diagnosis, Hepatitis B surface antigen and Hepatitis C antibody status. We adjusted all analyses for time period. Clinic was included as a random intercept. Significant covariates were used to fit a predictive multivariate model.

Results: A total of 720 new HIV diagnoses were included in analyses. The majority of diagnoses were male (95%), and men who have sex with men (82%) with a median age of 34 years (interquartile range [IQR]=27-43). The median CD4+ cell count at diagnosis was 362 cells/µl (IQR: 252-510). Early ART initiation rates increased significantly over-time: 17% in 2004-6, 26% in 2007-8, 42% in 2010-12 and 53% in 2013-14 (p<0.001). In a multivariate model increased probability of early treatment was associated with increased age (p=0.032); lower CD4+ cell count (p=0.001); higher VL (p=0.029); and later time period (p=0.001) (Figure 1).

Conclusions: These findings suggest that the counselor withdrawal substantially decreased clinic-based HIV testing. If these findings are representative of the experience province-wide, they illustrate how lay counselor withdrawal may jeopardize efforts to deliver the UNAIDS 90-90-90 strategy.
WEPEC 182

HIV TREATMENT REFUSAL IN PATIENTS WITH HIGH CD4 COUNTS: EVIDENCE FROM DEMOGRAPHIC SURVEILLANCE IN RURAL KWAZULU NATAL

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Background: Recent WHO guidelines recommend HIV treatment for patients regardless of CD4 count. However, healthier individuals may be less willing to start therapy than patients at lower CD4 counts. We assess predictors of ART uptake among patients presenting for HIV care in rural KwaZulu-Natal.

Methods: Clinical records were analyzed for all treatment-naive adults (18+) with at least one documented CD4 count, presenting for care with eligible CD4 counts (CD4 > 350) who resided within the surveillance area of the Africa Centre for Population Health, we assessed a range of sociodemographic, economic, and geographic predictors of ART uptake.

Results: Of 4,739 patients presenting for care with eligible CD4 counts, 55%, 58%, and 59% initiated ART within 6 months, 1 year, and 2 years of their first CD4 count value from time of first CD4 to ART initiation, adjusting for age and sex. For a sub-set of healthier patients (CD4 200-349) who resided in the surveillance area of the Africa Centre for Population Health, we assessed a range of sociodemographic, economic, and geographic predictors of ART uptake.

Conclusions: Healthier individuals were significantly less likely to initiate ART. Children in the household and distance to clinic were identified as barriers in healthier patients. Barriers to uptake must be addressed to increase the number of people on treatment at high CD4 counts.

WEPEC 183

USE OF PROGRAMMATIC DATA ON VIRAL LOAD TO ASSESS ART ADHERENCE IN BRAZIL FROM 2009 TO 2015

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Background: In December 2013, the Brazilian AIDS programme changed its recommendations on ART to treat all HIV+ people regardless of CD4 count. Moreover, the country has also implemented fixed-dosed combination (FDC) (TDF+3TC+EFZ) since 2014. An important issue raised regarding the Treatment for All strategy is whether people with high CD4 counts would present poorer adherence. This study aims to use viral load suppression (VLS) rates to indirectly assess adherence in Brazil.

Methods: We used programmatic data on CD4, VL and ARV dispensation to assess VLS (< 1000 copies/mL) in two CD4 categories (350-500 cells/mL and >500 cells/mL) at ART initiation by cohort of ART initiation (2009-2014). CD4 categories were established using the last CD4 count performed before first dispensation [up to 180 days]; selected VL was the last one performed each year, at least 180 days after the beginning of treatment. Statistical analysis for comparison of VLS rates was performed using chi-squared tests.

Results: Data from 55,629 patients and 148,800 VL exams were analyzed. VLS was above 79% for all years and groups analyzed; no statistical difference (p>0.05) was found between the CD4 categories for the 2013 and 2014 cohorts. The 2014 cohort presented higher VLS (p<0.05) in both CD4 groups, when compared to all other cohorts.

Conclusions: In 2014 and specially in 2015, a considerable increase in VLS was observed in all cohorts, and could be related to the implementation of FDC initiated in 2014. The 2014 cohort presents significantly higher VLS rates than all other cohorts, suggesting the success of the new guidelines, which restricted prescription rules to first line patients (1st line treatment should be TDF+3TC+EFZ if no contraindications). Finally, there was no difference in VLS between the two CD4 strata in 2013 and 2014 cohorts, helping refute that adherence among persons with high CD4 counts would be poorer.
WEPEC 184

NO DIFFERENCE IN ADHERENCE TO ANTIRETROVIRAL THERAPY IN SEX IN AFRICA: A META-ANALYSIS

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Background: Adequate adherence to antiretroviral therapy (ART) is necessary to reduce morbidity, mortality, and transmission of HIV. In Africa, men on treatment often have worse outcomes than women. A potential contributor to this imbalance may be a difference in levels of ART adherence. This meta-analysis compared ART adherence between men and women in sub-Saharan Africa.

Methods: Medline, Embase, and Web of Science were searched for articles in any language reporting ART adherence in sub-Saharan Africa through October, 2014. Studies were included if they used pharmacy records to measure adherence and found results for men and women in the same dataset. Results were combined using a random-effects model.

Results: From the 1796 abstracts identified, 65 articles involving a total of 29,697 men and 29,261 women met the inclusion criteria. Definitions of adherence varied by study and ranged from >80% to 100% of doses taken. The overall random-effects pooled odds ratio (pooled OR) for adherence among men compared to women was 0.94 (95% CI 0.85-1.05, I² = 86%). In a sub-analysis by adherence measure, studies using pharmacy records to measure adherence showed a marginally significant difference in adherence between men and women (pooled OR 0.93, 95% CI 0.87-0.99, I² = 34%), while studies using pill count or self-report did not (pill count pooled OR 0.81, 95% CI 0.53-1.17, I² = 86%; self-report pooled OR 0.99, 95% CI 0.77-1.27, I² = 90%). In a pooled analysis of 53 studies with individual-level data, 73% (95% CI 69-78%) of men and 74% (95% CI 70-79%) of women met criteria for being adherent.

Conclusions: Men with HIV in sub-Saharan Africa present later to care, have increased loss-to-follow-up, and have higher mortality rates than women. While the relative adherence of men and women varied greatly between studies in this meta-analysis (overall I² = 86%), men do not appear to have worse ART adherence than women. Instead, approximately 26%-27% of African adults, regardless of sex, have suboptimal adherence. Interventions are needed to improve adherence for both men and women taking ART.

WEPEC 185

MONITORING AND EVALUATION OF HIV CASCADE

WEPEC 186

FAST-TRACKING OF THE HIV RESPONSE: DO THE METROS LEAD THE WAY TO REACHING 90-90-90 IN SOUTH AFRICA?

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Background: City mayors worldwide have pledged to achieve the 90-90-90 targets by 2020. South Africa’s 8 metropolitan municipalities (metros) are priority areas as HIV burden is generally high and populations large. HIV programme planning and progress tracking requires comprehensive data. While South Africa has a wealth of data, routine data systems work in parallel and aren’t appropriately linked to allow progress tracking along the HIV Care Cascade (HCC). Poor implementation of the unique patient identifier means it’s difficult to link laboratory test results back to patient data.

Methods: We collated data sources to understand the HCC in South Africa’s metro and non-metro populations including demographic, HIV prevalence and death notification data and HIV laboratory data (2014-2015) that we linked to unique individuals using a probabilistic matching algorithm. We defined HCC using: number of persons living with HIV (PLHIV); total remaining on ART (TROA); numbers with a CD4 count and viral load (VL) test results in the past year and the number of suppressed VL tests.

Results: 37% of South Africa’s PLHIV live in metros. HIV was the second most frequent cause of death in four metros (2014) while it ranks 5 nationally. On average, progress along the HCC is virtually the same for metro and non-metro populations with a large gap to reach 90-90-90 for both (Figure 1). The HCC showed large variations across the metros with 2-5 metros faring worse than the average non-metro population across the cascade. Across the metros, 35%-63% of PLHIV were on ART, annual CD4 and VL test coverage ranged from 33%-73% and 22%-61% respectively while viral suppression ranged from 67%-85%.

Conclusions: There are currently large gaps in the metro’s 90-90-90 level of achievements. The District Implementation Plans will support the metros to focus HIV interventions for attaining the HCC targets by 2020.
WEPE187
A COMPARISON OF THE CONTINUUM OF HIV CARE IN ELEVEN EUROPEAN COUNTRIES USING STANDARDISED METHODS


Methods:

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Background: UNAIDS has set a 90:90:90 target to curb the HIV epidemic by 2020, but methods used to derive these proportions are not standardised, hindering comparisons between countries or compilation across regions.

Conclusions: Few countries achieved all three of the 90-90-90 targets according to our definitions. Standardising methods for the continuum remains a challenge for all stages. These data provide useful comparisons to governments and healthcare planners.

WEPE188
DISTANCE ELASTICITY OF DEMAND FOR HIV TREATMENT: SEX DISPARITIES IN UTILIZATION

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Methods: A comparison of the continuum of HIV care and treatment services is an important determinant of access to care. Using data from a large demographic surveillance area in rural South Africa, we assessed the association between distance to the nearest HIV clinic and rates of linking to care, initiating ART, and remaining in care at 12 months after ART initiation, and examined how this association differs for men and women.

Results: Living an additional kilometre away from the nearest clinic was associated with a 6.6% (95% CI 4.9% to 8.3%) reduction in linkage to care, a 6.5% (95% CI 4.2% to 8.7%) reduction in ART initiation, and a 5.4% (95% CI 3.4% to 7.4%) reduction in 12-month retention on ART. Stratifying by sex, the association between distance to clinic and time to linkage to care, ART initiation, and 12 month retention after ART initiation were estimated in Cox Proportional Hazards models, adjusting for age and sex. Models were additionally stratified by sex.

Conclusions: Women residing further from clinics were less likely to seek HIV care and treatment services; no such patterns were observed for men, suggesting that the geography of HIV infection and care-seeking may differ for men and women. Information on the geographic distribution of clinical services vis-à-vis patients served can be used to improve program planning and resource allocation.

Table: Hazard ratios, adjusted for age and sex (95% confidence intervals)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full Sample</th>
<th>Men</th>
<th>Women</th>
<th>Full Sample</th>
<th>Men</th>
<th>Women</th>
<th>Full Sample</th>
<th>Men</th>
<th>Women</th>
<th>Full Sample</th>
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<th>Women</th>
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<td>n</td>
<td>31,888</td>
<td>12,664</td>
<td>19,234</td>
<td>31,972</td>
<td>12,679</td>
<td>19,293</td>
<td>32,076</td>
<td>12,711</td>
<td>19,365</td>
<td></td>
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</tr>
<tr>
<td>Distance to nearest clinic (0 km)</td>
<td>0.990*** (0.942, 1.039)</td>
<td>0.990*** (0.943, 1.039)</td>
<td>0.990*** (0.943, 1.039)</td>
<td>0.990*** (0.943, 1.039)</td>
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<tr>
<td>Distance to nearest clinic (1 km)</td>
<td>0.950*** (0.941, 0.960)</td>
<td>0.950*** (0.941, 0.960)</td>
<td>0.950*** (0.941, 0.960)</td>
<td>0.950*** (0.941, 0.960)</td>
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<tr>
<td>Distance to nearest clinic (2 km)</td>
<td>0.970*** (0.954, 0.986)</td>
<td>0.970*** (0.954, 0.986)</td>
<td>0.970*** (0.954, 0.986)</td>
<td>0.970*** (0.954, 0.986)</td>
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</table>

Hazard ratios, adjusted for age and sex (95% confidence intervals)

WEPE189
MONITORING HIV CASCADE DATA FOR DECISION-MAKING: TARGETING KEY POPULATIONS WITH MULTIPLE RISK BEHAVIORS REVEALED AS THE PRIORITY IN MWANZA, TANZANIA

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Methods: Accurate HIV cascade data on key populations (KP) are critical for targeted HIV program implementation. ICAP at Columbia University developed and implemented an innovative monitoring and evaluation (M&E) system for a PEPFAR-funded KP program in Mwanza, Tanzania.

Background: Accurate HIV cascade data on key populations (KP) are critical for targeted HIV program implementation. ICAP at Columbia University developed and implemented an innovative monitoring and evaluation (M&E) system for a PEPFAR-funded KP program in Mwanza, Tanzania.

Conclusions: Accurate HIV cascade data on key populations (KP) are critical for targeted HIV program implementation. ICAP at Columbia University developed and implemented an innovative monitoring and evaluation (M&E) system for a PEPFAR-funded KP program in Mwanza, Tanzania.

Abstract Book  | www.aids2016.org
WEPEC 190

INSUFFICIENT PROGRESS TOWARDS THE 90-90-90 TARGETS IN THE SOUTH-EAST ASIA REGION

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Background: In South-East Asia region of World Health Organization (WHO), despite progress in the HIV response, new HIV infections and AIDS-related deaths have plateaued since 2010. We track the progress towards the 90-90-90 targets in nine countries from the region.

Methods: From review of global AIDS response progress reports, direct inputs through questionnaires, and country presentations during regional workshops, data on number of people living with HIV (PLHIV) diagnosed, in care, receiving antiretroviral therapy (ART), retained on ART, and with viral load (VL) suppression were collected. Among those tested for HIV, prevalence was highest among individuals with multiple risk behaviors: MSM + PWUD (27%), FSW + PWUD (18%), and FSW + PWID (13%); furthermore these groups were least likely to hint care (Table).

Results: PHLV who have been diagnosed (first 90) ranged from 24% in Indonesia to 80% in Thailand. These numbers are probably overestimated in some countries since the duplications and deaths could not be removed from the cumulative HIV cases ever diagnosed. Fewer PLHIV are aware of their HIV status in countries prioritizing testing by geography and for high-risk populations. PLHV on ART as a percentage of those diagnosed (second 90) is below 50% in all countries except Thailand (which recommends treatment for all). Even though these countries have adopted the 2013 WHO treatment recommendations, implementation is lagging far behind. Once PLHIV are on ART, 12-month retention rates are high in all countries. Limited available data show high VL suppression among PLHV on ART (third 90) in three countries. But the above estimates are calculated using ‘PLHIV on ART who have received a viral load test’ as the denominator, a number that is low in countries due to limited availability of VL testing.

Conclusions: Except Thailand, none of the countries in the region are on track to achieve the 90-90-90 targets. Innovative HIV testing strategies and improved access to ART and VL services are urgently required. Also, countries need to strengthen their information management systems for monitoring the progress towards these targets.

WEPEC 191

CHANGES IN ENGAGEMENT IN THE CARE CASCADE AFTER INTENSIFIED PROGRAMMING INCLUDING COMMUNITY MOBILIZATION OF FEMALE SEX WORKERS IN ZIMBABWE

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Background: Female sex workers (FSW) face numerous barriers to health seeking. Targeted HIV services, community mobilization, and training health care workers to reduce stigma and discrimination may improve engagement in the care cascade. We present results from two respondent driven sampling (RDS) surveys conducted in 3 sites in Zimbabwe before and after the implementation of the Sisters with a Voice intervention, which included enhanced community mobilization.

Methods: We conducted RDS surveys in Mutare, Hwange and Victoria Falls in 2011 and 2015 among women FSW aged ≥18 years, using identical methodology. In 2011, 370, 237 and 229 FSWs were recruited in Mutare, Hwange, and Victoria Falls over six waves of recruitment. In 2015, 407, 255 and 251 FSWs were recruited. We calculated RDS-weighted prevalence for each stage of the HIV care cascade and sociodemographic variables as shown in Table 1. We compared indicators from 2011 and 2015 to understand whether engagement with care among FSW had changed over this period.

Results: HIV prevalence in Mutare was increased, prevalence decreased in the other two sites. Engagement in prevention and care increased between 2011 and 2015, as summarized in Table 1.

The projected change in the care cascade 2011-2015 in Zimbabwe

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<tr>
<td></td>
<td>(N = 370)</td>
<td>(N = 407)</td>
<td>(N = 370)</td>
<td>(N = 255)</td>
<td>(N = 370)</td>
<td>(N = 255)</td>
<td>(N = 370)</td>
<td>(N = 255)</td>
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<tr>
<td>RDS%</td>
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<td>RDS%</td>
<td>RDS%</td>
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<tr>
<td>HIV Prevalence</td>
<td>30.6</td>
<td>51.3</td>
<td>50.6</td>
<td>63.7</td>
<td>69.6</td>
<td>62.1</td>
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<tr>
<td>Negative and tested in last 6 months</td>
<td>16.9</td>
<td>57.2</td>
<td>17.5</td>
<td>44.9</td>
<td>5.5</td>
<td>33.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive and aware of status and on ART</td>
<td>5.1</td>
<td>10.5</td>
<td>11.6</td>
<td>24.4</td>
<td>11.6</td>
<td>24.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive, aware of status and on ART</td>
<td>11.6</td>
<td>6.1</td>
<td>5.9</td>
<td>4.6</td>
<td>16.7</td>
<td>7.2</td>
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</table>

Table 1: Comparison between 2011 and 2015 cascade indicators collected during RDS surveys in three sites in Zimbabwe

Other differences between surveys include higher age of FSWs, higher median age at first commercial sex, and increased number of commercial sex partners in the past week in 2015 compared to 2011.

[Progress towards the 90-90-90 targets in nine countries in the South-East Asia Region in 2014]
Conclusions: While it is difficult to attribute improvements in prevention and care due to program intervention alone, this was likely partly due to engagement with the program. Reaching FSW with effective HIV prevention and care will be key to reaching 90:90:90 in southern Africa and beyond.

**WEPEG192**

HIV TREATMENT CASCADE IN UKRAINE: A CROSS-SECTIONAL ANALYSIS OF REGIONAL PATTERNS IN 2015

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Background: HIV treatment cascade is widely used tool to monitor gaps from diagnosis to viral suppression. We conducted this study to investigate heterogeneity in the cascade for people living with HIV (PLH) across 8 HIV high burden regions in Ukraine and their correspondence to the Fast-Track milestones.

Methods: As of 01/01/2015, data from regional routine HIV/AIDS surveillance and Spectrum were pooled together for this analysis. Following categories of care were measured: 1) estimated number of PLH; 2) HIV diagnosed; 3) enrolled in care; 4) retained in care as a number of PLH who received a clinical examination at least once within 12 months; 5) on ART; 6) undetected viral load as an estimated number of PLH who are on ART 6 months and more and have viral load less than 40 RNA copies/mL.

Results: In Ukraine, 59% of the estimated number of PLH in the country are diagnosed and enrolled in care. 48% of those on ART, which represents only 28% of the PLH population. 78% of those on ART or 22% of the total PLH population have undetected viral load. Results demonstrate significant differences across regions in the extent of gaps along HIV care continuum. Proportion of diagnosed PLH ranges from 33 to 63% of the estimated number of PLH in the region. Proportion of PLH on ART varies from 14 to 33%. While over three quarters of those on ART have undetected viral load in all selected regions, only 14-25% of the estimated PLH population are virally suppressed.

Conclusions: Although the extent of losses along the HIV treatment cascade differs across regions in Ukraine, all regional programs must prioritize enrollment in HIV care and earlier ART eligibility. Improvement of regional cascade estimates requires data quality strengthening, such as approving indicators needed to develop cascades for PLH with regional stakeholders, validating regional PLH population size estimates and introducing a standardized electronic tracking system of HIV infected patients.

**WEPEG193**

PLACE OF DEATH: AN 11 COUNTRY, 4 CONTINENT COMPARIISON FOR PEOPLE DYING OF HIV-RELATED CAUSES USING ROUTINE DEATH CERTIFICATION DATA

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Background: People continue to die with HIV. Despite ART, with 1.2 million HIV-related deaths in 2012. Place of death is an important indicator of quality, and identifies where adequate resources must be provided to ensure high quality care at the end of life to reduce avoidable suffering. This study aimed to determine place of death, and associated patient and health system factors, in 11 countries across 4 continents.

Methods: International Place of Death (IPoD) study, collected death certification data for one year in countries with ART coverage of at least 80%, and palliative care provision according to WHO (Belgium Canada, France, Italy, Korea, Mexico, Netherlands, Spain, Sweden, UK, USA). Data included place of death, age, sex, regional urbanization level and healthcare supply. Home death risk ratios (relative risks) and multi-variable models of predictors were calculated.

**WEPEG194**

HIGH PREGNANCY INCIDENCE AND LOW CONTRACEPTIVE USE AMONG FEMALE ENTERTAINMENT AND SEX WORKERS IN PHNOM PENH, CAMBODIA: NEED FOR PRIORITIZATION OF SEXUAL AND REPRODUCTIVE HEALTH SERVICES

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Background: While HIV and unintended pregnancy are occupational risks inherent to sex work, few studies have examined pregnancy incidence or reproductive need among this population. Indeed, research on the strategies utilized to prevent pregnancy among female entertainment and sex workers (FESW) in Cambodia is limited. This study therefore examined the correlates of pregnancy incidence as well as the HIV and pregnancy prevention methods of Cambodian FESWs, working in Phnom Penh.

Methods: Data were obtained from the Young Women’s Health Study (YWHS)-2, a 12-month prospective cohort of 220 FESWs, aged 15-29 years. Interviewer-administered surveys were conducted at baseline and every three months from 2009-2010. A project clinician collected biological samples to test for HIV/STI, illicit drug use and pregnancy. Correlates of incident pregnancy were examined using bivariate and multivariable extended Cox regression analysis.

Results: In total, 204 FESW were eligible for this analysis, with the majority (60.3%) of participants between the ages of 25-29. Pregnancy incidence was high (22/100py), as were indicators of unmet reproductive health need: at baseline, only 10.8% reported use of hormonal contraceptives, and 11.3% had an abortion in the last three months. Condom use (at last sex) by non-paying partners was much lower than condom use by last client (14.9% vs. 90.0%). In multivariable analysis, younger age (19-24 years versus 25-29 years) (Adjusted Hazards Ratio (AHR): 2.28; 95% Confidence Interval (CI) 1.22-4.27), lower monthly income (400,000-600,000 Riel (< $150 US) versus >600,000 Riel (> $150 US)) (AHR 2.63; 95%CI 1.02-6.77) and self-reported condom self-efficacy (AHR 0.89; 95%CI 0.81-0.98) were independently associated with incident pregnancy (p<0.05).

Conclusions: Our results indicate high incidence of pregnancy and unmet reproductive and sexual health needs among FESWs in Cambodia. These findings suggest the need for multi-level interventions, including venue-based HIV/STI prevention interventions, in the context of legal and policy reform. The high pregnancy incidence in this population may also undermine HIV prevention intervention trials. Together these data support the exploration of innovative, comprehensive sex worker-specific sexual and reproductive health service models, including as part of HIV prevention trials.
WEPEC 195

USE OF HIV PRE-EXPOSURE PROPHYLAXIS DURING PREGNANCY AND LACTATION AT 2 U.S. CENTERS

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Background: HIV acquisition during pregnancy and lactation is associated with increased perinatal transmission. No studies report pre-exposure prophylaxis (PrEP) use after 7 weeks gestation or in lactation. We describe PrEP use in and around pregnancy to highlight implementation challenges and prompt future study.

Description: Two United States (U.S.) centers began offering PrEP during pregnancy in 2010 at specialty clinics for women living with HIV. Chart review was performed on women at high-risk for HIV acquisition pre-conception, during pregnancy and lactation at these centers from 2010-2015.

Lessons learned: 27 women and 30 referrals (3 repeat pregnancies) were identified. 26 women had an HIV-infected partner, 73% (19/26) of whom were on treatment, and 42% (11/26) of whom were virally suppressed. 39% (10/26) of partners had known detectable virus and 23% (6/26) had unknown viral loads.

The median time from identification to consultation was 30 days (IQR 2-62). Two women were lost to follow-up before consultation. One woman identified was not referred in the setting of multiple pregnancy complications. She remained in care and was HIV-negative at delivery, but was lost to follow-up until 10 months post-partum when she was diagnosed with HIV. Her infant was not infected. No other sero-conversions were identified.

In 70% (21/30) of referrals, women were pregnant at consultation; none received safer-conception counseling. Of referrals who were offered PrEP, 67% (18/27) chose to take PrEP. Median length of time on PrEP was 30 weeks (IQR 20-53). No PrEP-related pregnancy complications were identified. 57% (13/23) of women in care at delivery did not follow up postpartum.

WEPEC 196

A POPULATION OF PREGNANT SOUTH AFRICAN MOTHERS LIVING WITH HIV (MLH), MOTHERS WITHOUT HIV (MWOH) AND THEIR CHILDREN OVER THE FIRST THREE YEARS OF LIFE

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Background: Most attention on mothers with HIV (MLH) focuses on the perinatal period to ensure that their children are not born seropositive or become seropositive in the first six months of life. However, MLH face life-long health, mental health, and relationship challenges. This study recruited a population cohort of pregnant mothers in 12 township neighborhoods of Cape Town, South Africa and followed the families through three years post-birth. We compare the MLH and their children to mothers without HIV (MWOH) and their children over time.

Methods: Pregnant women in 12 Cape Town, South Africa neighborhoods (N=584) were recruited: 98% were assessed in pregnancy, 92% within two weeks post-birth, 88% at 6 months, 84% at 18 months, and 86% three years post-birth. There were 186 MLH and 398 MWOH. Child and maternal outcomes were monitored (controlling for neighborhood and repeated measures), and contrasted over time using longitudinal random effects regression analyses, and for measures collected once, with multiple regressions.

Results: Only 4.8% of MLH’s children were seropositive; these were excluded from additional analyses. Children of MLH and MWOH died at similar rates (8.5%) and were similar in social and behavioral adjustment, vocabulary, and executive functioning at three years of age. Children of MLH tended to be significantly (p < .10) shorter, over time, had lower height-for-age 2 scores (were more likely to be stunted) and were also hospitalized more often than children of MWOH. These outcomes emerged in households in which pregnant MLH were more disadvantaged compared to MWOH (less income, more informal housing, more food insecurity, depression, and alcohol use). MLH were significantly more depressed over time than MWOH, but were similar in other risks over time. MLH did not take care of their own health after pregnancy. Three years post-birth, only 62% had re-engaged in HIV care. Those MLH who did go to care received ARV.

Conclusions: Only the physical health of children of MLH is compromised, compared to children of MWOH—social, behavioral, language, and cognitive functioning appear similar. Similar to global patterns, MLH face far more challenges than peers in the same neighborhoods.
STI CONTROL TO PREVENT HIV TRANSMISSION

WEPEC198

ANAL DOUCHING AND SHARING DOUCHING EQUIPMENT ARE NOT ASSOCIATED WITH ANORECTAL STIs: A CROSS SECTIONAL STUDY AMONG MSM AT THE STI CLINIC 

AMESTAD, THE NETHERLANDS

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Background: Men who have sex with men (MSM) are at high risk for anorectal sex- 

ually transmitted infections (STIs). Many MSM use anal douches in preparation for sex, 

which might break down the mucosal barrier function and facilitate the acquisition of 

STI pathogens. If shared, contaminated douching equipment itself could also be 

a transmission route. We determined whether anal douching and sharing douching 

equipment were associated with STI.

Methods: In a cross-sectional study among 994 consecutive MSM attending the STI 

outpatient clinic of Amsterdam between February and April 2011 we collected data on 

anal douching, sexual behaviour and STI. We used multivariable logistic analysis to 

determine the association between anal douching and sharing douching equipment 

and acquiring anorectal STI, after adjusting for high risk behaviour, i.e. age, 

ethnicity, condom use, number of partners, HIV-status and sexual position (top, bot- 

tom, versatile or no anal sex).

Results: The prevalence of anal douching was 46% (n=460) of which 25% (n=117) 

shared douching equipment. In 12%(n=123) syphilis and/or anorectal infections with 

non-LGV chlamydia, lymphogranuloma venereum and/or gonorrhoea were 

found. In univariable analysis anal douching (OR 2.7, 95%-CI 1.7-4.1, p<0.001) and 

sharing douching equipment (OR 4.3, 95%-CI 2.5-7.3, P<0.001) were significantly 

associated with anorectal STI. In multivariable analysis these associations were no 

longer statistically significant (aOR 1.3, 95%-CI 0.8-2.2, and respectively aOR 1.9, 

95%-CI 1.0-3.6, p=0.14).

However in this multivariable model HIV-positivity (p<0.001), younger age 

(p<0.007) and receptive anal intercourse (p=0.011) were significantly associated with 

anorectal STIs.

Conclusions: Almost half of MSM in our study sample use anal douching and a 

quarter of those MSM share douching equipment. Yet, after correcting for high- 

risk sexual behaviour such as condom use, number of partners, HIV-status, age and 

sexual position, anal douching and sharing douching equipment does not appear to 

contribute to the acquisition of anorectal bacterial STI or syphilis.

WEPEC199

TAKING SERVICES TO THE COMMUNITY: A CASE OF FEMALE SEX WORKERS

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Background: It has been shown that enrolling clients early on ARVs has a greater 

impact of reducing the viral load and thereby reducing the transmission of HIV. 

NYG partnered with Management Sciences for Health, with funding from USAID for 

a programme aimed at providing adequate access to Health services for Female sex 

workers (FSWs), increase access to HIV counselling and treatment services, and cer-

ment.

Methods: A total of 1662 surveys have been completed at 45 facilities to date. Of the 

879 currently analysed, similar percentages of women (82.2%) and men (83.5%) 

have ever heard of FCs. However, only about two-thirds knew they were available 

at the facility where they completed the survey, even though all facilities surveyed 

had distributed FCS at some time and 92% were currently distributing them. Overall 

14.7% have ever used a FC, and of these, two-thirds (65.4%) had used them for dual 

protection (pregnancy and STI/HIV prevention). Nearly two-fifths (37%) had ever 

been offered a FC in the facility where they are attending.

Conclusions/Next steps: There is significantly low number of clients enrolled in ART 

over this period, suggesting that female sex workers need a lot of attention to en- 

able them to enrol on ARVs. A good number of clients monitoring their CD4 count 

decided that the test and treat initiative as they felt it was not necessary.

Despite a programme that included investment in condom promotion, there are so 

many cases of Sexually Transmitted Infections, which refutes recent studies showing 

increased condom use among female sex workers.

MALE AND FEMALE CONDOMS AND OTHER PHYSICAL BARRIERS

WEPEC200

WHO HAS HEARD OF OR EVER USED THE FEMALE CONDOM IN SOUTH AFRICA? 

THE NATIONAL FEMALE CONDOM EVALUATION IN SOUTH AFRICA

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Background: South Africa (SA) has one of the largest and best-established, public- 

sector male and female condom (MC and FC) programmes world-wide. We are con- 

ducting the first comprehensive multi-method evaluation of the SA FC programme 

since FCs were introduced into SA in 1999. The primary objective of the evaluation 

is to describe and evaluate approaches used in the national SA FC programme and, 

identify predictors of FC uptake and continued use.

Methods: The existing National STI sentinel site surveillance sample of approxi- 

mately 30 sites per province was used for this study and includes rural and urban 

primary health care facilities, Community health centres, mobiles and hospitals. 

Additionally a sample of non-public sector sites- tertiary education, NGOs, social 

marketing and sector (≈ 30) were included. As one component of the evaluation, 

we are conducting an anonymous with men and women in a sub-sample of ap- 

proximately 50% of the sentinel sites and all non public. The anonymous survey 

asks facility clients if they have ever heard of or used FCs, whether they know they 

are available, and if they have been offered FCs at the facility they are attending.

Results: A total of 1662 surveys have been completed at 45 facilities to date. Of the 

879 currently analysed, similar percentages of women (82.2%) and men (83.5%) 

have ever heard of FCS. However, only about two-thirds knew they were available 

at the facility where they completed the survey, even though all facilities surveyed 

had distributed FCS at some time and 92% were currently distributing them. Overall 

14.7% have ever used a FC, and of these, two-thirds (65.4%) had used them for dual 

protection (pregnancy and STI/HIV prevention). Nearly two-fifths (37%) had ever 

been offered a FC in the facility they were attending, but this varied widely between 

facilities, ranging from < 10% to 80%. Knowledge and ever use by clients varied 

widely between facilities, ranging from < 10% to 80%. Knowledge and ever use by clients varied 

widely between facilities, ranging from < 10% to 80%. Knowledge and ever use by clients varied 

widely between facilities, ranging from < 10% to 80%. Knowledge and ever use by clients varied.
WEPEC201

SILCS DIAPHRAGM AS A MULTIPURPOSE PREVENTION TECHNOLOGY: AN ACCEPTABILITY STUDY COMPARING SILCS AND STANDARD APPLICATORS TO DELIVER VAGINAL GEL IN DURBAN, SOUTH AFRICA

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Background: The SILCS Diaphragm is a reusable barrier contraceptive developed to be easy to use and comfortable for both partners. The single-size design eliminates the need for an exam to determine diaphragm size. Researchers are assessing the SILCS Diaphragm as a low-cost, reusable delivery system for microbicidal gel to protect from both unintended pregnancy and HIV/STIs, thus serving as a multipurpose prevention technology (MPT). This study assessed acceptability and preference for the SILCS Diaphragm for gel delivery compared to gel delivery from a prefilled applicator using Friedman’s test.

Methods: A randomized, crossover study among women aged 18-45 in Durban, South Africa, with data collected via coital logs, questionnaires, and focus group discussions. Women used each method during five separate sex acts. Acceptability and preference endpoints were summarized using means and medians (for continuous measures) and frequencies and percentages (for discrete outcomes). Acceptability—ranked on a 5-point scale—compared both gel delivery scenarios using Friedman’s test.

Results: A total of 316 women were screened, 115 enrolled and 106 (92%) completed the study. Almost all women (88.3%) spent three minutes or less applying gel and inserting the SILCS. Around half of women found inserting the SILCS, checking its placement and knowing it was in the correct place, somewhat or very easy. Less than 4% found any of these procedures difficult. Gel leakage was found to be less acceptable in the gel applied by applicator compared to applied by SILCS. Slightly more women reported applicator/gel was “very acceptable” (68%) compared to SILCS and gel (60%). 68% were interested in using SILCS plus gel if it could protect from both unintended pregnancy and HIV, compared to 18% of women who would use SILCS for pregnancy prevention and 14% who would use a microbicidal gel for HIV prevention.

Conclusions: This study expands knowledge about South African women’s experience with the SILCS Diaphragm as a potential MPT. Results confirm that women can easily learn to use the SILCS Diaphragm, find it comfortable; and experience of use for both partners is acceptable. The study assessed acceptability and preference of using the SILCS Diaphragm and microbicidal gel as a potential MPT greatly increased women’s interest in using this method.

WEPEC202

FACTORS ASSOCIATED WITH CONDOM USE AMONG MEN AND WOMEN LIVING WITH HIV IN LILONGWE, MALAWI

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Background: Understanding the influences that affect condom use is a critical step towards tailoring STI/HIV prevention efforts. We aim to identify factors associated with self-reported condom use among HIV-infected individuals in Lilongwe, Malawi.

Methods: This is a cross-sectional analysis of 220 men and 254 women who were HIV-infected and sexually active within the past 6 months. The participants completed surveys at one of two HIV clinics in Lilongwe from September to December 2013. Multivariate logistic regression models evaluated associations between potential predictors of consistent condom use over the past 1-month (CCU) and use at last coitus (ULC).

Results: Among women: 37% and 55% reported CCU and ULC, respectively. Decreased CCU was associated with desire for future children (aOR 0.41 (0.20, 0.83)), condom insecurity (-1±week (aOR 0.45 (0.23, 0.87)), and making decisions alone about condom use (aOR 0.27 (0.13, 0.60)), whereas increased CCU was associated with ability to refuse sex without condoms (aOR 4.17 (2.70, 12.34)) and belief need for condom use with other contraceptives (aOR 4.79 (2.12, 10.85)). Decreased ULC was associated with cotel frequency >1x/week (aOR 0.47 (0.24, 0.91)), whereas increased ULC was associated with ability to refuse sex without condoms (aOR 6.53 (3.33, 12.80) and belief in need for condom use with other contraceptives (aOR 2.65 (1.23, 5.72)).

Conclusions: Our study highlights the need to improve condom utilization among HIV-infected individuals. While different factors are associated with condom use among men and women, the ability to refuse sex without condoms was the strongest predictor of CCU and ULC for both groups. Importantly, antiretroviral therapy and contraceptive use do not deter condom use. Promotion of joint decision-making and empowerment within a relationship are important steps towards improving condom utilization.

WEPEC203

PREFERENCE FOR VARIETY OF CONDOM TYPES IN A COHORT OF SOUTH AFRICAN MSM FROM PORT ELIZABETH AND CAPE TOWN

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Background: Consistent use of condoms during anal intercourse is a central component of effective comprehensive HIV prevention for men who have sex with men (MSM) and may be impacted by having a choice of condom brands and types. African MSM use of different condom brands/types has not been previously reported and may be useful for prevention organizations planning for increasing condom choices for MSM.

Methods: Sibanye Health Project is a 1-year prospective study of combination HIV prevention among MSM and transgender women from Cape Town and Port Elizabeth, South Africa. At baseline, all participants were given a starter package of condoms that contained 7 different types, one being a standard condom (Choice) that is the most commonly available in South Africa. During follow-up, we tracked requests for additional condoms by brand/type and administered condom satisfaction surveys. We describe requests for standard condoms compared to all other varieties overall, and by city and participant baseline HIV status.

Results: Through January 2016, we have enrolled 201 participants and conducted 745 follow-up visits. Except for the standard condom, requests for other condom brands/types were common (51-74%) and were similar (all 2-way correlations p < 0.001). The majority of participants requested more condoms of the non-standard varieties (9,824 condoms requested) compared to only 2 requests (11 condoms requested) for standard condoms (P value). The mean satisfaction rating for the standard condom was also lower than for other condoms. Nearly all of those who were HIV-positive have requested additional non-standard condoms.

Participants who requested additional condoms of follow-up visits by Participants’ City and Baseline HIV Status: Sibanye Health Project, Jan-2015 to Jan-2016

<table>
<thead>
<tr>
<th>Participant Type</th>
<th>Condom Requested</th>
<th>City</th>
<th>Baseline HIV Status</th>
<th>Requested During Follow-Up Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CAPE TOWN</td>
<td>Port Elizabeth</td>
<td>CAPE TOWN</td>
</tr>
<tr>
<td></td>
<td>Choice</td>
<td>1565 (80%)</td>
<td>73 (20%)</td>
<td>1598 (81%)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>73 (20%)</td>
<td>0 (0%)</td>
<td>72 (20%)</td>
</tr>
</tbody>
</table>

Condom Requests in Sibanye Health Project

Conclusions: South African MSM in our cohort do not prefer the most commonly available condom brand when given a choice of other types of condoms. Further research is warranted to determine whether other condom preferences and access may be associated with more consistent use, but HIV prevention organizations should consider offering other types of condoms now to meet this group’s preferences.
WEPEC204

WILL HE LET ME USE A FEMALE CONDOM, WILL SEX BE THE SAME? ATTITUDES AND EXPERIENCES OF FEMALE CONDOM USERS ATTENDING SELECTED PUBLIC-SECTOR HEALTH FACILITIES IN KWAZULU-NATAL, SOUTH AFRICA

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Background: HIV infection remains a serious threat to women’s lives. While the male condom has been the cornerstone of HIV prevention, many women are unable to use it with partners. The female condom (FC), is an effective alternative, but some women face use and partner negotiation challenges. Objectives: To assess FC attitudes and use among a cohort of new acceptors and those who last used it six months ago attending public-sector health facilities.

Methods: A longitudinal cohort of 598 women aged 18-45 were enrolled from four public-sector health facilities in KwaZulu-Natal between September 2014-October 2015. Data was collected at baseline, 1, 6, and 12-months. We report on baseline and 1-month follow-up results.

Results: 513 women completed their one-month follow-up interview. Mean age was 28 years; two-thirds had a regular partner; 17% were married. Prior to enrollment, amongst a third had ever used the FC for contraception. A majority (91%) reported FC use in the past month. Just over half said their FC experience was positive; 83% experienced no discomfort during sex. Most women (85%) at Month 1 reported their partners were supportive; 81% indicated that partners didn’t object to FC use. The majority (85%) at Month 1 strongly agreed that the FC makes sex better compared to 57% at baseline. Almost all women knew that FC offers dual protection. 80% of women at Month 1 felt that FC puts the woman in charge compared to 56% at baseline. Most women (80%) at Month 1 said sex felt good with FC compared to 43% at baseline. Four percent of women at baseline didn’t know whether using a FC takes fun out of sex, but by Month 1, 79% reported that FC doesn’t take fun out of sex. Over half of women at Month 1 reported their partner’s sexual experience was not affected by FC.

Conclusions: Women in the cohort found the female condom enhancing their sexual experiences and most reported their partners also supported FC use during sex. Monitoring attitudes and patterns of use at 6 and 12 month follow-up visits will provide key information about the influence of sexual pleasure on continued use.

WEPEC205

HIV P24 ANTIGEN AMONG HIV ANTIBODY SERONEGATIVE BLOOD DONORS IN SOUTH-WEST NIGERIA

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Background: Testing of blood donors is carried out mainly using antibody detection kits in Nigeria. These kits detect antibodies to HIV antigens which appear usually later than the p24 antigen. Transmission of HIV through infected blood and its products accounts for approximately 10% in African region. This study was therefore carried out to determine the prevalence of p24 core antigen in blood donors already screened as HIV negative by the antibody detection method.

Methods: A total of 1440 blood samples were collected from regular blood donors from different hospitals in Southwestern Nigeria. Sera from the blood were screened for HIV1 and 2 antibodies by Determine™ HIV-1/2 kit (Abbott Laboratory, IL, USA) and confirmed with the Immuno Comb® II HIV 2/B (Bispot kit PBS Organics and Israel 2005). Initially HIV antibody seronegative sera were further screened for the presence of HIV 1/2 antibodies and p24 HIV core antigen using EUSA kits (Genscreen™ ULTRA HIV Ag - Ab). Manufacturer’s protocols were strictly followed. Statistical analysis was done using packages within SPSS and P value < 0.005 considered significant.

Results: Out of the initial 1440 HIV antibody seronegative sera, 9.63% were positive for the p24 HIV core antigen. There was significant association between the distribution of p24 antigen seropositivity with history of sexually transmitted infection (P=0.001), blood transfusion (P=0.001), and multiple sexual partners (P=0.001).

Conclusions: With the prevalence of 0.63% antigenemia among blood donors in southwestern Nigeria, there is the need for the Nigerian government to urgently adopt WHO blood safety strategies for resource-limited settings and to optimize donor selection and testing algorithm. HIV screening of donors must be based on a combination of antibody-based test and p24 antigen test coupled with a stringent blood donor selection algorithm.

WEPEC206

ACCEPTABILITY OF HUMAN IMMUNODEFICIENCY VIRUS SELF-TESTING AS A SCREENING STRATEGY IN BEITBRIDGE DISTRICT, ZIMBABWE, 2015

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Background: Low uptake of traditional forms of HIV testing and counseling (HTC) remains a primary bottleneck to universal access to testing and care in Zimbabwe. In 2014 Beitbridge District, using the facility-based HTC, failed to achieve its uptake target by 32%. Zimbabwe is contemplating introducing HIV self-testing (HIV ST) as an alternative to facility-based HTC.

Against this background we sought to determine acceptability of, and intention to conduct HIVST in Beitbridge District.

Methods: An analytic cross-sectional study using Integrated Behaviour Model (IBM) was conducted. Adults (18-49 years) residing in Beitbridge district were recruited. Data on HIV ST intention were collected using pretested interviewer administered questionnaire. Statistical Package for the Social Sciences (SPSS) 17 was used to conduct exploratory factor analysis and multivariate linear regression to determine independently associated factors with HIV self-testing intention.

Results: Of the 289 respondents recruited, 60% were female. The median age was 28 years (Q3=23; Q2=34). Eighty per cent (n=243) reported intention to conduct HIV self-testing. About 254 (87.9%) would accept HIV ST if the kits were offered at low cost. Being single (aOR=35.2, p<0.05), Self- Efficacy (aOR = 4.73, P<0.05), attitude (aOR=3.59, p<0.05), and injunctive norm beliefs (aOR=1.76, p<0.05) independently predicted HIV ST intention. Main motivating factors was privacy n=203 (70%), whilst lack of counseling n=95(33%) was highlighted a possible barrier.

Conclusions: HIV self-testing is highly acceptable and preferable if kits are offered at low cost. We recommend piloting of HIV ST and strategies such as telephonic counseling or outreach schedule to address lack of counseling. Research is also required on the sustainability and cost-effectiveness of implementing program at a subsidized cost.

WEPEC207

SYSTEMATIC REVIEW ON HIV SELF-TESTING (HIVST) PERFORMANCE AND ACCURACY OF RESULTS

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Background: HIVST has potential to increase access to and uptake of HIV testing, particularly among key populations. Many countries have already or plan to introduce HIVST and WHO plans guidance for late-2016. There are, however, concerns about rapid diagnostic tests (RDTs) usability and accuracy when used for HIVST. We will summarize the evidence on HIVST accuracy to inform policy development.

Methods: We searched three databases and five HIV conferences abstracts (January 1995-November 2015) for studies assessing diagnostic accuracy and performance of RDTs used for HIVST. Review was restricted to reports with true/false-positive and true/false-negative, used to calculate sensitivity and specificity. We analyzed data by type of specimen collection (oral-fluid or whole-blood), type of support provided and HIV prevalence among study participants. Study results using the same RDT for HIVST were pooled.

Results: 35 studies were included. Study QUADAS methodological quality was variable and most studies (n=12/15) used oral-fluid RDTs. HIV prevalence was high (median: 12.6%). HIVST sensitivity (range: 65%-98.8%) and specificity (range: 94.7%-100%) were generally among people with known HIV status and/or using ART, and rural populations with lower literacy. Except for Kurth et al (15.1%), studies reported sensitivity were generally among people with known HIV status and/or using ART, and rural populations with lower literacy. Except for Kurth et al (15.1%), studies reported

Conclusions: We recommend piloting of HIV ST and strategies such as telephonic counseling or outreach schedule to address lack of counseling. Research is also required on the sustainability and cost-effectiveness of implementing program at a subsidized cost.
WEPEC208

ENHANCING ACCESS TO HIV TESTING SERVICE FOR MEN WHO HAVE SEX WITH MEN (MSM) IN LAO PEOPLE’S DEMOCRATIC REPUBLIC (PDR)

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Background: Men who have sex with men (MSM) have a high HIV prevalence in Lao PDR: 5.6% in Vientiane in 2007. The Lao Center for HIV/AIDS/STI, in collaboration with US Centers for Disease Control and Prevention and World Health Organization, have worked since 2009 to strengthen Global Fund-supported MSM prevention programs in Vientiane Capital and Vientiane Province. In 2015, the team introduced additional recruitment strategies and capacity building training to increase access to HIV testing and ensure HIV-infected MSM were linked to care. Here we describe the outcomes of these initiatives.

Methods: We conducted MSM target mapping in Vientiane Capital and Province, and training for health care providers and staff of community-based organizations on HIV counseling, program monitoring, and improving the quality of counseling and laboratory services. Monitoring systems were implemented at 13 HIV testing sites (government and a community-based drop-in center) to allow continuous quality improvement. Mobile HIV testing and an incentivized, coupon-based, peer-delivered intervention (PDI) were added to expand access to HIV testing using MSM mapping information. HIV-positive MSM were referred to antiretroviral treatment (ART) sites using referral cards and outreach case managers.

Results: The number of MSM tested for HIV in Vientiane Capital and Province rose from 98 in 2012 to 1,009 in 2015. Of the 1,009 MSM, 410 (41%) were recruited at mobile clinics, and 113 (11%) at government testing clinics. Overall, 37 (4%) MSM were HIV infected; HIV prevalence was highest among MSM recruited at the government testing clinics (14%).

Conclusions: We implemented a recruited that significantly increased HIV testing among MSM. The HIV prevalence in government clinics and Vangvieng District was higher than expected, signaling a need to accelerate HIV interventions among MSM in Laos.

WEPEC209

ACCEPTABILITY, FEASIBILITY, AND PREFERENCE FOR HIV SELF-TESTING IN ZIMBABWE

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Background: Access to and demand for HIV testing services (HTS) remains inadequate. HIV self-testing (HIVST) may substantially scale-up acceptability and access to testing, addressing many barriers to provider-delivered testing (PDHTS) strategies. We compared the offer of HIVST versus PDHTS in Zimbabwe to examine preferred testing method and characteristics of testers by method.

Methods: Outreach teams visited rural and peri-urban communities in advance to promote testing using either PDHTS or HIVST, and inform them of community testing dates. Individuals 21+ years presenting for testing who had a mobile phone and provided consent were enrolled. A baseline questionnaire was administered and participant phone numbers were registered for follow-up. Those opting for HIVST received a self-test with validated instructions, and were contacted after 2 weeks to complete a telephone questionnaire about their experience.

Results: 1,000 participants were recruited, 500 from rural and 500 from urban areas. Mean age was 33 years (range 18-74) and 52% were male. 17% of participants had never accessed HTS. Overall, 695 (70%) participants opted for HIVST. Those who self-tested were more likely to be <35 years (p=0.02), more educated (p=0.01), have ≥1 sexual partners in the past 3 months (p=0.01), and less likely to have used a condom at last sex (p=0.00). 622 (89%) self-testers completed a telephone questionnaire. Of these, 32 (5%) had not yet used the test. Primary reasons were being busy/traveling (44%) and fear of results (19%). The Table shows telephone questionnaire results, by rural/urban setting.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (N=998)</th>
<th>Rural (N=307)</th>
<th>Urban (N=691)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-test not at all hard to use</td>
<td>564 (96%)</td>
<td>299 (97%)</td>
<td>265 (94%)</td>
<td>0.03</td>
</tr>
<tr>
<td>Tested with someone else present</td>
<td>169 (29%)</td>
<td>82 (27%)</td>
<td>87 (31%)</td>
<td>0.28</td>
</tr>
<tr>
<td>Tested with a sexual partner</td>
<td>120 (12%)</td>
<td>64 (13%)</td>
<td>56 (11%)</td>
<td>0.44</td>
</tr>
<tr>
<td>Reported an HIV-positive test result</td>
<td>47 (8%)</td>
<td>15 (5%)</td>
<td>32 (11%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Comfortable learning test result without a provider present</td>
<td>540 (92%)</td>
<td>289 (94%)</td>
<td>251 (89%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Would want next test to be a self-test</td>
<td>510 (86%)</td>
<td>276 (90%)</td>
<td>234 (83%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Would recommend self-testing to others</td>
<td>586 (99%)</td>
<td>306 (100%)</td>
<td>280 (99%)</td>
<td>0.47</td>
</tr>
<tr>
<td>Of those testing HIV+ (n=47), attended post-test HIV services within 2 weeks</td>
<td>25 (53%)</td>
<td>8 (53%)</td>
<td>17 (53%)</td>
<td>0.99</td>
</tr>
</tbody>
</table>

[Post-test telephone questionnaire data among 590 participants who used the self-test, stratified by rural/urban setting]

Conclusions: Results suggest that HIVST is highly acceptable, and preferred by the large majority over PDHTS. HIVST may encourage testing among couples, younger people, and potentially those at higher risk. Importantly, half testing positive via HIVST had linked to post-test services by the time of follow-up, similar to available linkage data from PDHTS. HIVST represents a promising alternative for increasing knowledge of HIV status in Zimbabwe.
WEPEC211
BOOSTING VOLUNTARY AND FREE COUNSELLING AND HIV TESTING FOR MEN HAVING SEX WITH MEN IN TURKEY

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Background: There are no Voluntary Counselling and Testing Centres (VCTs), no national HIV-screening programme, no community-based testing opportunities in Turkey, where the number of new diagnoses increased by 46.7% (2004-2013, WHO). Although approximately eight million HIV tests are performed each year, these are not random, not targeted at most-at-risk populations (MARPs) and are not anonymous (if covered by the state health insurance system) due to various structural barriers. The community-based testing project presented in this abstract aimed at filling this gap and increasing the number of people who are aware of their HIV-positive status, so that they can reach treatment and reduce further transmission.

Description: Being the first and only of its kind, the current project, started in March 2015, provides voluntary, free and anonymous counselling and testing to men having sex with men (MSM) in Istanbul, where the prevalence is the highest, with the co-operation of the single HIV patients’ organisation of Turkey and a private laboratory.

Lessons learned: The project is advertised in MSM bars and clubs, online platforms, billboards and social media applications. Over 1000 people applied and received counselling by a peer-counsellor. To date, 200 people got tested, 13.5% were diagnosed with HIV and directed to treatment. This is the highest prevalence rate detected in any testing initiative in the country. The country’s official HIV prevalence rate is below 0.1%. People diagnosed with HIV were 18 to 30 years old MSM, including undocumented migrants. Majority had CD4 counts lower than 300 and did not have medical insurance. High levels of social barriers and self-stigma preventing MSM from testing are also documented through the project.

Conclusions/Next steps: The project proved the success of targeted, anonymous testing and fills a data gap by generating evidence. The project provides a new model for Turkey, in which a non-governmental organisation and a private clinic collaborated. The results are used for evidence-based advocacy for the re-opening of VCTs and establishment of community-based testing venues.

WEPEC212
THE IMPACT OF AN ELECTRONIC ALERT EMBEDDED IN ELECTRONIC MEDICAL RECORDS ON HIV TESTING AMONG A HIGH-RISK POPULATION IN THE UNITED STATES

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Presenting author email: rulin.c.hechter@kp.org

Background: Individuals seeking diagnosis or treatment for sexually transmitted infections (STIs) are at an increased risk for HIV infection. We evaluated the impact of an electronic alert for HIV testing embedded in electronic medical records (EMRs) on same-day HIV testing rates.

Methods: The electronic alert was implemented around October 2012 at a large managed care organization, targeting individuals over 14 years old with undiagnosed HIV status who were tested for any of the following STIs: gonorrhea/chlamydia, syphilis, and hepatitis B or hepatitis C infection. We identified individuals who received at least one STI test between testing dates and linked their electronic medical record to assess whether a HIV alert was received. We compared the same-day HIV testing rate during the pre- and post-implementation periods among all patient encounters that were eligible for HIV screening per the alert criteria. Stratified rate was calculated by age, gender, race/ethnicity, and type of STI test. In multivariable analyses, adjusted associations between demographics and receiving HIV testing on the same day of the STI test(s) were estimated by using logistic regression with generalized estimating equations to account for correlation within individuals.

Results: There were 1,287,187 (32.2% male) and 885,439 (31.1% male) individuals during the pre- and post-alert periods, contributing 3,043,792 and 1,992,715 eligible encounters in the analysis, respectively. The demographic characteristics were comparable between study samples during the two periods. The overall same-day HIV testing rate increased from 50.7% to 61.2% after the implementation of the alert. The greatest increase was observed in individuals ≥ 50 years of age (14.7%), males (12.0%), Asian/Pacific Islanders (13.6%), and those receiving only a syphilis test (18.3%). In multivariable analysis, compared with 25-39 year olds, individuals aged ≥ 50 years were the least likely to receive same-day HIV testing [odds ratio (OR) = 0.258, 95% confidence intervals (CI): 0.256-0.260]. Male gender (OR=2.633, 95%CI: 2.618-2.648), and black and Hispanic race/ethnicity were associated with a greater likelihood of receiving same-day HIV testing (black: OR=1.268, 95%CI: 1.257-1.27; Hispanic: OR=1.098, 95%CI: 1.091-1.105 vs white).

Conclusions: Evidence-based electronic alerts embedded in EMRs have great potential as an effective systematic intervention to improve targeted HIV testing among high risk populations.
WEPEC 15

LAY PROVIDER HIV TESTING SERVICES FOR KEY POPULATIONS: PRELIMINARY RESULTS FROM A NEW STRATEGY TO ACCELERATE 90-90-90 IN VIETNAM

Wednesday, 20 July
Poster Exhibition

Background: The HIV epidemic in Vietnam is concentrated among key populations (KP). Annual KP uptake of HIV testing through conventional testing services is low (~30%). This poses a major challenge to achieving 90-90-90. The USAID/PATH Healthy Markets Project, in collaboration with government and NGO partners, is piloting community-based lay provider HIV testing to enhance KP access to HIV testing and accelerate diagnosis and treatment enrolment.

Description: The pilot aims to evaluate the model’s acceptability, feasibility, and effectiveness for screening KP for HIV and ensuring linkages to care. Services are implemented in two mountainous and remote provinces, Nghe An and Dien Bien, and in two cities: Ha Noi and Ho Chi Minh City (HCMC). Non-health care workers (peer outreach workers and village health volunteers) were trained to proficiently offer test-for-triage (ATT) in community settings using a rapid diagnostic test (RDT) (Determine HIV-1/2), and refer all reactive cases to health facilities for HIV diagnosis, and enrollment in treatment (confirmed cases). Standard operating procedures, video tutorials, and service algorithms were developed to reinforce the quality of testing. Local government health authorities provide supervisory support to the lay providers.

Results: Lay providers identify a higher proportion of positive cases (5.4% of clients tested) than conventional HIV testing (2.4% according to national data, VAAC). All confirmed cases of HIV have been enrolled in treatment programs. In the first two months of implementation, over 1,660 people have been tested, and 90 new HIV cases were (5.4%). Male clients accounted for 90.6% of confirmed cases. Confirmed cases included those with a high CD4 count, where early treatment is particularly important for preventing transmission. Investment in training, job aids and supervision has translated into high quality testing by lay providers.

Lessons learned: Preliminary results are encouraging, with lay providers identifying a higher proportion of positive cases (5.4% of clients tested) than conventional HIV testing (2.4% according to national data, VAAC). All confirmed cases of HIV have been enrolled in treatment programs. In the first two months of implementation, over 1,660 people have been tested, and 90 new HIV cases were (5.4%). Male clients accounted for 90.6% of confirmed cases. Confirmed cases included those with a high CD4 count, where early treatment is particularly important for preventing transmission. Investment in training, job aids and supervision has translated into high quality testing by lay providers.

Conclusions/Next steps: Preliminary results indicate that lay provider testing can contribute to the identification, accurate diagnosis, and timely treatment of KP with HIV, especially those with a high CD4 count. The pilot is currently expanding to additional districts across the four provinces as requested by the provincial AIDS centers.

WEPEC 14

PARTNER NOTIFICATION FOR HIV TESTING SERVICES (HTS) APPROACH IN TANZANIA UNDERSCORES NEED FOR DISCORDANT COUPLE PACKAGE

Author Index

Tuesday, 19 July

Background: With UNAIDS’ 90-90-90 goal, approaches to HTS which yield high positive rates are critical for sub-Saharan Africa. Partner notification, where sexual partners of newly-diagnosed clients are contacted by their partner or a provider, is effective, but underutilized, in identifying undiagnosed individuals. Successful applications of this approach have been documented in Malawi and Cameroon. Identification of serodiscordant couples presents a critical HIV prevention opportunity given high risk of the uninfected partner. This study evaluated feasibility, acceptability and effectiveness of partner notification in facility-based HTS (HTS) in Tanzania.

Methods: The study was conducted in 3 hospitals in Njombe (Tanzania’s highest HIV prevalence region), June - September 2015. Individuals diagnosed with HIV in PITC or VCT were enrolled as index clients, and offered passive, contract or provider referral to HTS at the same facility: partners testing positive were referred into HIV care and treatment. Serodiscordant couples were defined as those in which the sexual partner indicated that they were in a current partnership with the index client.

Results: 390 individuals (53.1% female) enrolled as index clients and 248 of their named sexual partners were successfully referred, in all but one case via passive referral. 238 partners tested for HIV, 61.8% testing positive. More female partners tested positive (67.9% vs. 53.5% for male). 88 serodiscordant couples were identified, 87 of which were reached through passive referral - the remaining one through provider referral. 76.1% of discordant couples were husbands or wives, 15.9% were boyfriends/girlfriends and 8% were casual partners.

Conclusions: Tanzanian facility-based HTS settings are a feasible venue for high-positivity rate partner notification programs, including identification of sero-discordant couples. A social preference for partner notification as a means to disclose serostatus to the main partner was seen in the study, making the intervention in many cases a facilitated disclosure intervention by the HTS counselors. Given the number of sero-discordant couples identified, we recommend that partner notification programs are rolled out with a comprehensive prevention package for discordant couples, including risk reduction counseling, provision of condoms, immediate provider ART for the index partner and PrEP for the HIV uninfected partner as appropriate.
WEPEC17
THE IMPACT OF THE SCALE UP OF VOLUNTARY MEDICAL MALE CIRCUMCISION SERVICES ON MEN’S POPULATION-LEVELS OF HIV-TESTING IN RURAL ZAMBIA, 2009-2013

B. Hensens1, J. Lewis1, A. Schaap1, M. Tembo2, H. Weiss3, N. Chintu1, J. Hargreaves1

Background: In response to recommendations by the World Health Organization, voluntary medical male circumcision (VMMC) services were launched in Zambia in 2009. Men opting to undergo VMMC are offered provider-initiated HIV-testing services (PITC) prior to circumcision. Scaling-up VMMC has the potential to increase HIV-testing on HIV testing among male partners of ANC clients in Kenya. Methods: In a three-arm randomized controlled study in 14 ANC sites in Eastern and Central Kenya, consenting women at first ANC were randomized to either: Group 1 receiving standard-of-care; Group 2 receiving a card stating the importance of male HIV testing in prevention-of-mother-to-child-transmission; or Group 3 whose participants received the same card plus two Orakwik HIV oral test kits with instructions for testing with the partner at home. Consent testing of men was a baseline questionnaire and endline questionnaire after three months. Consenting male partners were surveyed three months after enrolling ANC clients. The primary outcome was male partner HIV testing, any by means, within three months after ANC client enrolment. Results: 1410 women were randomized. At the time of analysis, 756 have been followed up and 669 men responded to the survey (623 couples). Baseline characteristics of the men in three study groups did not differ. (p>0.05). Of the 669 men surveyed, in Group 3, 83% of men reported having taken a HIV test, compared to 28% in Group 1 and 36% in Group 2 (p-value<.001) (overall 48%, n=326). Most men testing for HIV indicated testing together with their partner regardless of the study group—information that was corroborated by the female partners. Of the men using HIV self-test kits, over 90% reported it was very easy to take a swab and read the test results. Conclusions: Preliminary results indicate that the ANC platform offers a unique opportunity to increase HIV testing among men using oral self test kit. By increasing male partner testing, the potential exists to reduce mother-to-child-transmission and other new infections among adults.

WEPEC18
PROVISION OF ORAL HIV SELF-TEST KITS TRIPLE UPTAKE OF HIV TESTING AMONG MALE PARTNERS OF ANTENATAL CARE CLIENTS: RESULTS OF A RANDOMIZED TRIAL IN KENYA

A. Gichangi1, J. Wamburu1, A. Gohale2, S. Mutwiwa3, R. Njogu4, E. Bazant5, E. Tumasho3, R. Wafu3, M. Mudany8, J. Korte9

Background: Kenyan women have higher HIV prevalence than men (6.9% vs. 4.4%) with 4.8% of married/cohabitating couples serodiscordant. Partner’s HIV status is unknown to 42.2% of pregnant women. Antenatal care (ANC) attendance is nearly universal (95.4% attend first ANC). In 2012, 95% of Kenyan ANC clients were offered provider initiated testing. Despite a policy promoting male partner testing, only 6% of male partners are tested. We evaluated the impact of using oral HIV self-testing on HIV testing among male partners of ANC clients in Kenya. Methods: In a three-arm randomized controlled study in 14 ANC sites in Eastern and Central Kenya, consenting women at first ANC were randomized to either: Group 1 receiving standard-of-care; Group 2 receiving a card stating the importance of male HIV testing in prevention-of-mother-to-child-transmission; or Group 3 whose participants received the same card plus two Orakwik HIV oral test kits with instructions for testing with the partner at home. Consenting women completed a baseline questionnaire and endline questionnaire after three months. Consenting male partners were surveyed three months after enrolling ANC clients. The primary outcome was male partner HIV testing, any by means, within three months after ANC client enrolment. Results: 1410 women were randomized. At the time of analysis, 756 have been followed up and 669 men responded to the survey (623 couples). Baseline characteristics of the men in three study groups did not differ. (p>0.05). Of the 669 men surveyed, in Group 3, 83% of men reported having taken a HIV test, compared to 28% in Group 1 and 36% in Group 2 (p-value<.001) (overall 48%, n=326). Most men testing for HIV indicated testing together with their partner regardless of the study group—information that was corroborated by the female partners. Of the men using HIV self-test kits, over 90% reported it was very easy to take a swab and read the test results. Conclusions: Preliminary results indicate that the ANC platform offers a unique opportunity to increase HIV testing among men using oral self test kit. By increasing male partner testing, the potential exists to reduce mother-to-child-transmission and other new infections among adults.
Conclusions: Our findings indicate that moonlight HCT is most appropriate for men concomitant with VCT in MCH clinics. Male HIV positivity at static health facilities is higher than it is at generalized community outreachs and therefore, combination strategies are important to improve on early HIV diagnosis among men and promotion of PMTCT services.

WEPEC220
A PRELIMINARY EVALUATION OF THE HIV TESTING ALGORITHM IN THE IPM 027 TRIAL
M. Isaac1, J. De Wet1, A. Engelbrecht1, C. Neate1, M. Mlangeni2, Z. Israel1, T. Vudzika1, K. Naidoo1, N. Mngqiyai1, A. Neil2
1International Partnership for Microbicides, Paarl, South Africa, 2Hutchinson Center Research Institute, HTVT Immunology Laboratory, Cape Town, South Africa,

Background: HIV testing was performed on venous blood samples collected from participants at all scheduled post-enrolment visits. Samples were first tested using the confirmation was implemented in the trial. The application and evaluation of the algorithm which was used to confirm HIV seroconversions will be discussed.

Methods: HIV testing was performed on venous blood samples collected from participants at all scheduled post-enrolment visits. Samples were first tested using the Determine™ HIV-1/2 rapid test. In the event of a reactive result, the same sample was tested using the FDA-approved OraQuick® Advance Rapid HIV-1/2 Antibody test. In the event of discordant results between the Determine and OraQuick rapid tests, the sample was tested using the Uni-Gold™ HIV-1/2 rapid test. If two reactive rapid test results were obtained, a sample was collected for Western Blot confirmation at a central laboratory. All results were reviewed by the HIV Seroconversion Monitoring Committee (HSMC) who provided consensus confirmation of HIV seroconversion. The HSMC could request repeat of the algorithm if the Western Blot result was indeterminate or additional testing to confirm seroconversion.

Results: 80.8% of the total number of cases identified as potential HIV seroconversions (two reactive rapid tests) were confirmed to be HIV seroconversions based on the standard algorithm. 14.2% of cases identified as potential HIV seroconversions required repeat of the standard algorithm prior to being confirmed. 5% of cases identified as potential HIV seroconversions required additional tests outside of the standard algorithm prior to being confirmed.

Conclusions: The majority of HIV seroconversion cases could be confirmed based on the standard HIV testing algorithm and this demonstrates that the algorithm was robust and effectively implemented.

WEPEC222
TARGETING HIV TESTING AT A POPULATION LEVEL: A COMPARISON OF THREE APPROACHES
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Background: Targeted HIV testing has been proposed as the most efficient strategy to diagnose HIV infected subjects in low prevalence populations. The present work aimed to compare the accuracy of three different HIV testing targeted approaches previously validated to predict HIV infection.

Methods: All participants in DRIVE study (a non targeted HIV testing programme in Emergency Department and Primary Care Centre -PCC-) were tested for HIV and filled out a self-administered questionnaire on HIV risk of exposure and clinical indicators (RE&CI). The RE&CI questionnaire included 6 questions to evaluate the risk of exposure to HIV and others to assess 14 HIV associated clinical indicators (from the HIV Indicator Diseases across Europe Study -HIDES- list). One positive item defined the patient at being at risk for HIV. The other two tools considered were: Denver HIV Risk score (DHIRS) with a cut-off>30 and HIDES using only 14 clinical indicators. We calculated Sensitivity (Sn), Specificity (Sp), positive predictive value (PPV) and negative predictive value (NPPV) of the three tools, considering the gold standard confirmed cases of HIV infection with EIA/WB. Number of missed HIV infections (NMHI) and tests avoided were also calculated.

Results: 5,329 participants between 18-60 years old completed paired valid RE&CI questionnaires and rapid HIV tests in the DRIVE study (69.3% in the PCC). 50.4% were women and median age 37 (28-47) years. Confirmed new HIV diagnoses were detected in 22 subjects (4.1%) with this non-targeted strategy. The percentage of the population identified to be at risk for HIV infection by a positive questionnaire, DHIRS>30 and with at least one item of 14 HIDES list selection was 51.2%, 39.7% and 26.9%, respectively. Sn, Sp, PPV, NPV, NMHI and test avoided were 100%, 49%, 0.80%, 100%, 0, and 2,601 respectively in RE&CI questionnaire approach, 72.7%, 60.41%, 0.76%, 99.8%, 6 and 3,212 in DHIRS, and 91%, 74.4%, 1.4%, 99.9%, 2 and 3,948 in 14 items of HIDES list. Conclusions: All three tools avoided HIV tests, but only the questionnaire captured all HIV-infected subjects detected by the non-targeted strategy. A selection of HIDES list presented a high sensitivity, and was able to avoid the highest number of tests.

WEPEC221
INCREASED ACCESS TO TESTING AND KNOWLEDGE OF HIV STATUS IN DOMESTIC WORKERS AND JOB SEEKERS IN KWAZULU-NATAL
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Background: Most job seekers and domestic workers find it difficult to access health care due to their busy daily schedule as they find themselves spending hours in queues waiting to apply for jobs or finish work after the clinic has closed. The purpose of this initiative was to increase HCT (HIV Counselling and Testing) uptake among domestic workers and job seekers.

Methods: A Quality Improvement Project using the challenge model was used in a suburban public sector primary clinic in Durban that has a total catchment population of 6798. Staff were coached and mentored to do bottle neck analysis and were asked to propose solutions to enhance access to HCT services. A decision was made to implement HCT through community outreach, which was implemented in August 2015. Outreach areas were visited once weekly. The HCT outreach programme was expanded to include cervical cancer screening and condom distribution. Health services were provided to clients waiting in queues either applying or awaiting reponses to job applications. A room allocated to ensure privacy was used for service delivery and where unavailable, clients were taken to the clinic for procedures.

Results: An average of 225 clients (15-49 years) per month was provided with HCT prior to the outreach intervention and this increased to an average of 404 clients (15-49 years) per month post intervention. Condom distribution increased from an average of 5360 per month to 11160 per month and an increase in cervical screen,ing from an average of 6 clients per month to 16 clients per month. All (100%) of clients applied their cervical cancer screening tests and 28 women (6%) were referred to hospital for further management as required.

Conclusions: HCT community outreach services contributed to an increased number of people knowing their status, increased screening for cervical cancer screen- and enhanced access to condoms.

WEPEC223
WHAT ROLE DOES HIV SELF-TESTING (HSV-1) HAVE FOR MEN WHO HAVE SEX WITH MEN (MSM) IN THE UK? TESTING NEEDS, SOCIAL NORMS AND BIOLOGICAL CITIZENSHIP
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Background: Continuous monitoring of health is increasingly an expectation of responsible patient citizenship. This is particularly true for those deemed to be ‘most’ at risk by the epidemiological and public health sciences. HIV testing among MSM in the UK may be understood as an obligation, and a requirement for participation in gay male culture.

Methods: Six focus group discussions (FGD) were conducted between July and November 2015 with 47 MSM aged between 18 - 64 in London, Manchester and Plymouth. MSM were purposively sampled based on HIV testing history, sexual orientation and ethnicity. FGs covered HIV testing behaviour, HIV-1ST intervention preferences and perceptions of HSV-1T in relation to other testing opportunities. FGs were recorded and transcribed verbatim, then subjected to a narrative analy- sis using NVivo10.

Results: MSM’s narratives identified three main rationales for testing for HIV: in response to risk, to seek reassurance (‘to double check’), and to conform to expecta- tions of the medical establishment and peer groups.
When men were not confident in receiving a negative result, health care staff support was highly valued and emphasized as a crucial part of an HIV testing intervention. Concerns regarding lack of such support therefore undermined HIV-ST’s role following a risk event. Instead, HIV-ST was accepted as a technology facilitating the risk management and social expectations of medical practitioners and peers. It rarely met the goals or needs of male strategies to encourage risk awareness. Whilst not mobilized in response to high risk occurrences in practice, self-testing enables MSM to demonstrate responsible citizenship in keeping with public health and social expectations of ongoing risk monitoring. This implies that self-testing extends the reach of risk governance from the clinic into the home but without necessarily impacting as envisaged by public health.

WEPEC224
THE REASONS FOR NOT HAVING RECORCE TO HIV TESTING FOR KEY POPULATIONS IN MOROCCO
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Background: In Morocco, despite tremendous efforts of Civil Society and Ministry of Health, 65% of people living with HIV (PLHIV) don’t know their serostatus. HIV Testing is offered free of charge, in Morocco, in NGOs (anonymously), hospitals and primary health care centers by trained physicians using rapid testing technology. Hence the need to diversify and multiply HIV testing services (HTS) and to explore barriers to HIV testing.

Methods: Association de lutte contre le Sida (ALCS), the leading NGO for HTS in Morocco, conducted in 2015 a pilot project to study the feasibility and acceptability of trained lay providers community based HIV testing and counseling (LPCB-HTC).

Users of the new service were asked to complete a questionnaire rating the experience and exploring the barriers to HIV testing.

Results: 5275 participants used the service and completed the questionnaire, including 2016 Female Sex Workers (FSW), 1903 Men who have Sex with Men (MSM) and 762 Sub-Saharan Migrants (SSM). Only 32% have been already tested for HIV before (37.5% for SSM, 34.5% for MSM and 29.1% for FSW). Participants aged 25 years old and above are more likely to have been tested in the past than younger. Out of the first testers, 48% reported that they have never been tested before because they did not know that a free and anonymous HIV testing was available or did not know where it was available and 11% that they were afraid of the potentially stigmatizing attitude of the Health Care Professionals. This was more important for women than men (18.2% Vs 22.7%) but was not perceived as a barrier for SSM who met this criterion.

Conclusions: The role of HIV-ST for MSM in the UK will likely be partly limited to testing when MSM do not perceive themselves to be at risk of infection. Instead, self-testing was highlighted for its feasibility and acceptability. Whilst not mobilised in response to high risk occurrences in practice, self-testing enables MSM to demonstrate responsible citizenship in keeping with public health and social expectations of ongoing risk monitoring. This implies that self-testing extends the reach of risk governance from the clinic into the home but without necessarily impacting as envisaged by public health.

WEPEC225
EVALUATING TESTING STRATEGIES FOR IDENTIFYING HIGH-RISK YOUTH AND LINKING YOUTH TO PREVENTION
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Background: In the United States, half of the estimated 62,000 youth living with HIV are unaware of their HIV status. We examined preliminary results from a pilot study of the outreach of a mobile HTST to encourage testing among high-risk racial minority young men who have sex with men (YMSM) ages 13 to 24 taking place in 13 urban United States’ cities (Connecting to Testing and Prevention or C2TaP).

Methods: Data on 1750 adolescents were collected from 13 C2TaP sites during the second quarter of program implementation. Sites implemented one of three testing strategies: (1) routine testing in high-volume settings that attract youth such as school-based health centers (Mass Routine Testing. N=2 sites; 436 youth), (2) routine testing in addition to community-based testing events (Combination Testing. N=7 sites; 685 youth), (3) targeted community-based testing events including explicit consent approach (Specific Targeted Testing. N=3 sites; 414 youth). Models were compared to one another on the proportion of YMSM and youth of color tested, proportion of HIV-positive cases identified, and proportion of youth successfully linked to community prevention services using Z-tests of differences in proportion with p < .05 as criterion for determining statistical significance. Eleven of twelve tests performed met this criterion.

Results: Specific Targeted Testing produced the superior strategy on nearly every outcome assessed in comparison to other testing models. 6% of youth tested via Specific Targeted Testing were identified as HIV-positive compared with 1% using Combination Testing and none using Mass Routine Testing. Specific Targeted Testing produced superior results for reaching youth of color (98% vs. 94% Mass Routine and 70% Combination) and linking negative youth to prevention (94% vs. 41% Mass Routine and 85% Combination). Specific Targeted Testing and Combination Testing performed equally well in reaching YMSM (53% vs 56%) and better than Mass Routine Testing (1%). Overall, Combination Testing produced superior outcomes compared to Mass Routine Testing.

Conclusions: Although preliminary, these early findings suggest targeted testing efforts may be worth their cost and effort for identifying HIV-positive youth and linking high-risk negative youth to prevention services. More rigorous studies to establish the promise of these strategies for reaching high-risk YMSM and youth of color are warranted.

WEPEC226
HIV EQUAL™ (HIV=) IN ZIMBABWE: FIGHTING HIV STIGMA AND DISCRIMINATION USING A NOVEL AND INNOVATIVE APPROACH TARGETING ADULT GIRLS AND YOUNG WOMEN
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Background: HIV stigma and discrimination in Zimbabwe has been a significant deterrent to getting Adult Girls/Young Women (AGYW), as well as men and vulnerable populations, HIV tested. Nationally, 11.8% of men have been tested, and the HIV infection prevalence is greatest in youth 13-24 years old. HIV=, a World Health Clinicians, Inc (WHC) and BEAT AIDS Project Africa (BAPA) initiative, is a testing and anti-stigma photographic campaign, launched in the US in Oct 2013, in Victoria Falls (VF), Zimbabwe in Dec 2013, and nationwide in ZIM in Oct 2015.

Methods: In the HIV= campaign, participants must get HIV tested and demonstrate proof of HIV-positivity to then have a free HIV= photograph taken. Each photo photo claims, “Everybody has an HIV Status. We are All HIV Equal”, meaning God loves everybody, regardless of their HIV status. Each individual then chooses a “STATUS word that describes one positive attribute about themselves. All participating individuals get a free HIV= T-shirt that stimulates conversation about what it means to be “HIV Equal”.

Results: From Dec 2013 to June 2015, 8 HIV testing and counseling / HIV= events (2 in the Victoria Falls municipality, 6 in the Hwange district rural health clinics) were conducted. 1262 individuals (range 58-586) were HIV tested, with 41.8% men, 48.4% AGYW (13-24 yrs), 9.8% children (under 13), and 20% orphans/vulnerable children were tested and photographed.

At the request of the Ministry of Health and Child Care and the National AIDS Council, the HIV= campaign was adapted for AGYW, and youth and high-density suburbs of Harare with live Zimbabwean music and the most popular ZIM artists. 1564 individuals were HIV tested (1175 in one 8-hour event), 76% AGYW, and 2355 photos and T-shirts were given out. All individuals were linked immediately to care with the participating NGOs and city health departments. A video will be shown.

Conclusions: The novel and innovative HIV Equal testing and photographic campaign has proven successful in targeting and testing vulnerable populations, AGYW, and men. Ten events in the 10 ZIM Provinces are planned for 2016.
WEPEC227
COULD PREP ENCOURAGE HIV TESTING? A QUALITATIVE STUDY OF HIV TESTING ATTITUDES AND PREP ACCEPTABILITY AMONG SOUTH AFRICAN YOUTH
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Background: HIV testing among South African youth is low, despite high prevalence and incidence. Studies are considering safety of pre-exposure prophylaxis (PrEP) for youth. We examined how fears of HIV testing may affect future PrEP uptake among South African young people, and how PrEP access may simultaneously shape HIV testing in a generalized epidemic.
Methods: We conducted focus groups and interviews exploring youth PrEP acceptability with at least 20 HIV-negative and HIV-positive adolescents, and at least 17 clinicians serving youth in Cape Town. Youth were aged 16-17, approximately 60% female, and recruited via door-to-door sampling and clinic settings. We approached clinicians through networks and snowball sampling. Adolescent focus groups and interviews discussed HIV testing attitudes, willingness to use PrEP or support partner use, and predicted user behaviors. Clinician interviews explored willingness to prescribe PrEP and predicted behaviors among young PrEP users. We analyzed qualitative data thematically using NVivo.
Results: Among some youth, the need for HIV testing before and during PrEP use may initially deter uptake. Teens reported stigma and fear associated with testing, and anticipated discrimination by clinicians who disapprove of adolescent sex. Teens’ testing fears included concerns about testing positive, but also ongoing anxiety among people testing negative, given concern about avoiding infection in a high-prevalence population. Some teens may prefer condoms over PrEP to avoid testing. Clinicians and youth also noted that as PrEP uptake increases, PrEP access may reduce fear and stigma associated with testing, as well as violence and rejection associated with status disclosure. Youth believed PrEP access would motivate increased testing, and PrEP could alleviate anxiety associated with testing negative in a generalized epidemic. Clinicians also suggested that PrEP could reframe testing as part of a preventive intervention, rather than solely identifying status.
Conclusions: If PrEP becomes available for youth, the need for initial and ongoing HIV testing may deter some teens. But as PrEP access expands, its availability may motivate increased testing among youth in generalized epidemics. Future research should explore how PrEP access affects testing. If youth PrEP becomes available, efforts to increase HIV testing in South Africa may advocate testing as a gateway to PrEP.

WEPEC228
CAN WOMEN SAFELY DELIVER HIV ORAL SELF-TEST KITS TO THEIR SEXUAL PARTNERS? RESULTS FROM A PILOT STUDY IN KENYA
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Background: Studies conducted in multiple settings and populations indicate that HIV self-testing is acceptable and feasible. One study in the US reported that men who have sex with men can distribute self-tests to their sexual partners to promote partner and couples testing. A pilot study in Kenya demonstrated the feasibility of this strategy among women who were given multiple self-tests. However, there is a need to assess concerns that women may experience intimate partner violence (IPV) as a result of distributing self-tests to their sexual partners.
Methods: HIV-uninfected female sex workers (FSW) and antenatal clinic (ANC) and postsocial clinic (PNC) attendees were enrolled at multiple sites in Kisumu, Kenya. Women who self-reported a concern about experiencing IPV were excluded. FSW were given 5 OraQuick oral fluid-based self-tests while ANC and PNC women were given 3 self-tests. Study staff demonstrated how to use self-tests and each self-test included pictorial usage instructions. Women were also counseled to use their distributions as an IPV risk when determining whether to introduce self-tests to their sexual partners. At 3 months, women were asked about self-test usage as well as experience of IPV and its relation to distribution of self-tests.
Results: 280 women were enrolled and the majority (95% FSW, 93% ANC and 86% PNC) reported distributing self-tests to their primary sexual partner. Reported IPV during 12 months before enrollment was 44%, 27% and 46% among FSW, ANC and PNC women, respectively. At follow-up, 13% of ANC, 16% of PNC and 21% of FSW reported IPV in the 3 months since study enrollment. However, the vast majority (85%) of women reporting IPV at follow-up had also reported IPV at baseline and only four of the women attributed the occurrence of IPV to distribution or attempted distribution of self-tests.
Conclusions: Even in a population with high underlying IPV rates, women were able to safely distribute self-tests to their sexual partners. As more women than men attend services at health facilities, providing them with multiple self-tests for secondary distribution is a safe and highly promising strategy for increasing HIV testing among men.

WEPEC229
HOME VISITING AS A STRATEGY TO INCREASE HIV TESTING UPTAKE AMONG VULNERABLE CHILDREN AND THEIR CAREGIVERS: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL IN SOUTH AFRICA
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Background: Early initiation of antiretroviral therapy is recommended, but requires timely diagnosis. Fear of the outcome, lack of knowledge of the benefits and other intrapersonal concerns may prevent some adults from getting themselves or their children tested. Home visiting programs that offer one-on-one support and education from trained care workers have the potential to help mitigate some barriers to testing.
Methods: A randomized controlled trial was conducted to evaluate a home visiting program operating in urban townships of South Africa for its effectiveness to increase uptake of HIV counselling and testing services. Care workers made bi-weekly visits to the homes of children affected by orphanhood, poverty and adult chronic illness to connect these families with essential services, including HIV testing. Survey data were collected prior to program commencement in 2014 and after a year of service delivery. Equal numbers of households were randomized to receive or be waitlisted for services. Random effects models, stratified by age and gender, estimated program participation effects. 431 caregivers (92% female) completed both the baseline and impact surveys (90% retention rate) providing data on 1220 children under their care.
Results: Caregivers who received home visits were three times more likely to have been tested in HIV in the prior year at follow-up than caregivers in the control group (OR=3.3, 95% CI=1.6-6.6). Findings were particularly stark among intervention group caregivers younger than 35 years, as they were ten times more likely (OR=10.3, 95% CI=2.3-45.5) to have been tested than control group caregivers. Program effect did not vary by caregiver gender. Children whose caregiver both participated in the home visits and had been tested in the previous year, were more than four times more likely to have ever been tested at follow-up than other children (OR=4.7, 95% CI=1.2-18.3).
Conclusions: Home visiting is an essential stepping stone to care and treatment, but significant intrapersonal barriers to access exist. Our findings suggest that caregiver testing is a necessary precursor to child testing and demonstrate that community-based social service programs targeted to vulnerable populations can be effective in mobilizing caregivers to have themselves and their children tested for HIV.

WEPEC230
DRIVING HIV TESTING AMONG HIGH-RISK GAY AND BISEXUAL MEN IN NEW ZEALAND: NATIONAL HIV TESTING MONTH
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Background: HIV transmission in New Zealand is concentrated among gay, bisexual and other men who have sex with men (GBM). Although past HIV prevention efforts have kept HIV prevalence and incidence low compared to other countries, evidence suggests that sexual risk-taking may be rising among GBM and that reducing the levels of undiagnosed HIV within sexual networks is necessary to realize the preventative benefits of early treatment. As part of a combination approach to preventing HIV, the New Zealand AIDS Foundation (NZAF) developed National HIV Testing Month, an integrated social marketing campaign, to increase rates of HIV testing among this group.
Description: Formative research was used to identify lack of perceived risk as a key barrier to HIV testing among high-risk GBM. Responding to this barrier, highly relevant and engaging content was created around the frequently Googled question, “Why are gay guys more prone to HIV?” This was supported this with a video that demystified the testing process and a mobile-friendly online booking form.
Advertising was placed on bus stops, street posters, gay venues, gay news sites, social media and hook-up apps. Online advertisements were shown 2.6 million times, generating 15,492 website clicks over the campaign month.

**Lessons learned**: Appointments booked online at N兹AF clinics increased 218% from a monthly average of 186 to 592 in May 2015, creating a large overflow and appointment waitlist into June. 311 and 190 GBM were tested in the months of May and June, representing an increase of 138% and 41% respectively on the previous monthly average of 135 tests. Two GBM clients were diagnosed HIV positive in each month of May and June, a slight increase on the monthly average of 1.4.

**Conclusions/Next steps**: National HIV Testing Month was effective at driving HIV testing behaviour among GBM, however the increase in diagnosed positives was noticeably less than the increase in tests completed, indicating that GBM who engage in sexual risk-taking may not have been effectively engaged. Future social marketing efforts to promote HIV testing should explore addressing multiple barriers to HIV testing among GBM, as well as motivations, to drive behaviour among this group.

**PEP**

**WEPEC231**

**Dolutegravir with tenofovir disoproxil fumarate-emtricitabine as HIV post-exposure prophylaxis in gay and bisexual men**

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**Background**: Completion rates for HIV post-exposure prophylaxis (PEP) are low. We investigated the adherence to and safety of dolutegravir (DTG) 50mg daily with tenofovir disoproxil fumarate 300mg/emtricitabine 200mg (Truvada®) as PEP in gay and bisexual men (GBM).

**Methods**: We conducted an open-label, single-arm study at 3 sexual health clinics and 2 emergency departments in Australia. One hundred HIV-uninfected GBM requiring PEP received DTG plus Truvada for 28 days. The primary endpoint was PEP failure (premature PEP cessation or primary HIV infection during Week 12). Additional endpoints were: adherence by self-report (n=98) and pill count (n=55); and safety (clinical and laboratory adverse events [AEs]).

**Results**: PEP completion was 90% (95%CI 84% to 96%). Failures comprised loss to follow-up (9%), and one AE resulting in study drug discontinuation (headache, 1%), and occurred at a median 9 days (IQR 3-16). No participant was found to have acquired HIV through Week 12. In the 55 participants with complete adherence data, adherence was 98% by both pill count and self-report. In the further 43 participants with self-report data only, adherence was 97%. The most common clinical adverse event (AE) was headache (10%), abdominal cramping (9%), wind (9%), and vivid dreams (7%). There were only four Grade 3-4 subjective AEs. The most common laboratory AE was raised alanine aminotransferase (25%), but there was only one Grade 3-4 ALT increase and no case of clinical hepatitis. An eGFR of < 60 mL/min/1.73m² occurred in 3%.

**Conclusions**: DTG with Truvada was safe and well-tolerated as once-daily PEP with high levels of adherence and completion.

**WEPEC232**

**KNOWLEDGE OF POST-EXPOSURE PROPHYLAXIS AMONG SOUTH AFRICAN MEN WHO HAVE SEX WITH MEN: RESULTS OF AN ONLINE SURVEY**

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**Background**: The Soweto Men’s Study (2008), demonstrated an overall HIV prevalence rate of 13.2%, with 10.1% among straight-identified Men-who-have-sex-with-men (MSM), 57% of whom were black, 33.9% among men-who-have-sex-with-men (MSM), 57% of whom were black and 39% of whom were gay-identified MSM. Behavioral interventions are imperative, but insufficient to prevent new HIV infections. Biomedical prevention of HIV offers a variety of combination prevention tools, including Post-Exposure Prophylaxis (PEP). PEP studies amongst MSM have been conducted in Amsterdam, Brazil and San Francisco, but never before in Africa.

**Methods**: A cross-sectional, internet-based survey was initiated to measure knowledge, attitudes and beliefs regarding PEP among South African MSM. Recruitment was commenced in June 2014 until October 2015. Participants were recruited through banner advertisements on Facebook.com and mambonline.com, advertisements in the local gay media and at Health4Men (H4M) MSM-targeted clinics. Outreach workers distributed flyers advertising the study in their local communities. The survey was also made available on a computer at the H4M clinics in Cape Town and Johannesburg to reach MSM who may not have internet access.

**Results**: 408 men completed the survey. The majority of these men were under the age of 40, identified as gay/homosexual and were employed. 51% (208/408) self identified as black or of mixed race. In multivariate analysis participants who identified as gay had greater odds of having previously heard of PEP (AOR 1.93, 95% CI 1.04, 3.51; p = 0.036), as did those who reported their HIV status as positive (AOR 2.59, 95% CI 1.47, 4.45; p = 0.001). Participants with medical insurance had greater odds of having used PEP previously (AOR 2.67, 95% CI 1.11, 6.43; p = 0.036). Bivariate analysis showed that condoms in the past 6 months was not significantly associated with PEP knowledge (p = 0.75) or uptake (p = 0.56) of PEP.

**Conclusions**: Our findings suggest a lack of PEP knowledge and uptake among non-gay identified, HIV negative and un-insured MSM. Focusing PEP programs on these men may potentially increase uptake. Increased knowledge needs to be provided to MSM who engage in risky sexual behaviors.

**PREP**

**WEPEC233**

**Are primary care providers in the southeastern U.S. ready to prescribe PrEP?**

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**Background**: The U.S. Public Health Service recently issued guidelines about daily use of medication as pre-exposure prophylaxis (PrEP) to prevent HIV infection, and recommended that physicians, including primary care physicians (PCPs), offer PrEP to high-risk patients. Although there has been an increase in PrEP uptake, the CDC cites that 34% of PCPs have never heard of PrEP. We assessed the knowledge, attitudes and beliefs regarding PrEP in a large network of primary care clinics in the Southeast, which continues to have the highest rates of HIV in the U.S.

**Methods**: An online survey using Qualtrics software was emailed to PCPs in the Duke University Primary Care Network, Duke Private Diagnostic Center, and Duke Internal Medicine Program located in Durham, North Carolina. The survey consisted of 12 multiple choice questions aimed at understanding sentiments towards PrEP and potential barriers to its implementation in primary care clinics. No incentive was provided.

**Results**: Of 389 PCPs surveyed, 115 (30%) responded representing 24 clinical sites: 44% were faculty physicians, 42% resident physicians, 7% physician assistants, and 6% nurse practitioners. 78% reported seeing patients who are men who have sex with men (MSM); 12% said they did not see MSM, and 10% were not sure. Only 17% had prescribed PrEP. In response to why providers had not prescribed PrEP, 60% cited lack of knowledge, 56% said they had no candidates, and 42% mentioned lack of comfort in prescribing PrEP. Providers said that they would be more likely to prescribe PrEP if they had additional training (74%), reference materials (56%) and an infectious disease consultation by phone or pager (26%).

**Conclusions**: PrEP is a medication that has been shown to successfully prevent HIV in high-risk populations, but is not currently being prescribed by clinicians associated with a large academic US hospital in a regional epicenter for HIV. Although the majority of PCPs state that they see MSM in their practice, most respondents still did not prescribe PrEP. Our results indicate that lack of knowledge is the primary reason for not prescribing PrEP, but providers were open to additional education and reference materials.
WEPEC234
UPGRADE AND PREFERENCE OF DAILY AND INTERMITTENT PRE-EXPOSURE PROPHYLAXIS (PrEP) IN A DEMONSTRATION PROJECT: BASELINE CHARACTERISTICS AND HIV PREVENTION CHOICES MADE BY DUTCH MSM

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Background: Information on the uptake and use of Pre-Exposure Prophylaxis (PrEP) provided by a large sexually transmitted infection (STI) clinic is limited and insight into key populations’ preferences for daily or intermittent, event-driven PrEP in a real-life setting is lacking. We studied the uptake and acceptability of daily and intermittent PrEP in the Amsterdam PrEP (AMPHEP) project, a demonstration project.

Methods: In August 2015 enrollment into AMPHEP started at the STI clinic of the Public Health Service Amsterdam, the Netherlands. Eligible were men who have sex with men (MSM) who had, in the preceding 6 months, at least one of the following risk factors for HIV infection: condomless anal sex (CAS) with casual partners, rectal or urethral STI, Post-Exposure Prophylaxis, or having an HIV-positive partner with a detectable viral load. Eligible participants choose between tenofovir/emtricitabine PrEP daily and intermittent (IPERGAY schedule) usage modalities. Data collected until 19 January 2016 were analyzed.

Results: During the first 24 hours after announcement of AMPHEP 350 applications were submitted and in the next 4 weeks 185 applications, totaling 535 applications. As of 19 January 2016, 237 applicants had had a screening visit. Of those, 13 were not eligible, 6 withdrew, 20 were awaiting screening results and 198 started PrEP. Median age, STI at baseline and sexual behaviour characteristics are reported in the table.

Conclusions: Our findings suggest the need for tailored educational and social marketing efforts to prepare for the introduction of PrEP for MSM in Taiwan. Some MSM were aware of off-label use of HIV medication for prevention; however, marshalling PrEP awareness may be particularly warranted among MSM who engage in condomless sex with multiple partners. The associations of stigma and anticipated disclosure of PrEP use with acceptability may reflect the collectivistic orientation of Taiwanese culture, and suggest that social marketing efforts consider emphasizing benefits to others as well as oneself in promoting PrEP acceptability.

WEPEC235
AWARENESS AND ACCEPTABILITY OF PRE-EXPOSURE PROPHYLAXIS (PrEP) AMONG MEN WHO HAVE SEX WITH MEN IN TAIWAN

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Background: Oral pre-exposure prophylaxis (PrEP) is highly effective in reducing HIV infection risk among men who have sex with men (MSM). Despite escalating HIV prevalence among MSM in Taiwan, little is known about awareness and acceptability of PrEP, or possible barriers to using PrEP. We examined factors associated with awareness and acceptability of PrEP among Taiwanese MSM. The iPrEx trial was a randomized blinded placebo controlled trial of daily oral entecavir (FTC) plus TDF PrEP among men who have sex with men in women, including transgender women. The active and placebo arms were compared to identify the onset and timing of Cr elevations.

Conclusions: In the Netherlands, interest for PrEP use among MSM is high. Most participants preferred daily PrEP. Participants choosing daily PrEP were younger and reported more anal sex partners than those who chose intermittent PrEP.

Results: Among 4553 participants screened, 96 (2%) did not enroll because of baseline renal insufficiency or proteinuria. A total of 2499 participants were randomized to receive FTC/TDF (N=1251) or placebo (N=1248). Cr elevations occurred among 32 (2.6%) in the active arm and 24 (2.2%) in the placebo arm (RR 1.35 95% CI 0.80 to 2.3). Among the placebo arms, Cr elevations occurred at a constant rate of 0.86/100 person years. The majority of excess Cr elevations in the active arm occurred between weeks 12 and 24 weeks of PrEP use (N=9, 0.7%, 95% CI -0.1 to 1.6%; see figure: Time on FTC/TDF PrEP and Cr Elevations).
WEPEC237
COMMUNITY- AND INDIVIDUAL-LEVEL CHALLENGES FOR HIV PRE-EXPOSURE PROPHYLAXIS (PrEP) UPTAKE AMONG MSM IN MUMBAI, INDIA
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Background: Pre-exposure Prophylaxis (PrEP) is emerging as a new HIV prevention technology for most-at-risk groups, including MSM. HIV prevention strategies in India have focused on condom use and periodic HIV testing; however, MSM continue to be disproportionately affected. With high efficacy for preventing HIV infection, PrEP could be a significant addition to prevention programs in India.

Methods: From Oct-Dec 2014, we conducted five focus groups with MSM (n = 30) and five key informant interviews in Mumbai, India. MSM with diverse identities (Kathi, Panthi, Gay, and Bisexual) were recruited using purposive sampling. Focus groups and interviews were transcribed, translated into English, and analyzed thematically.

Results: Participants’ mean age was 25.3 years and mean monthly income was INR 9500; 50% reported higher secondary education. Forty-three percent of the participants reported inconsistent condom use, 33% reported using water-based lubricants in the last year, and 23% were involved in sex work. Most participants (56%) were willing to use PrEP if available. The following community-level challenges emerged for PrEP uptake/implementation: affordability of PrEP, fear of PrEP users being judged by their family and community as promiscuous/HIV positive substance users, and risk of being outed as “PrEP users” (and thus as MSM) by family/wife. Key individual-level challenges were fear of side-effects from long-term use and perceived lack of self-efficacy in adherence. Key informants highlighted ethical implications of providing PrEP in a scenario with frequent stock-outs of government-supplied free antiretroviral medications, risk compensation by individuals in the form of increase in the number of partners, lack of emphasis on condom use as well as concerns around disclosure of HIV status to steady partners.

Conclusions: Challenges identified highlight socio-cultural attitudes-particularly stigma toward homosexuality and people living with HIV. Ethical challenges around providing ART as PrEP in resource-constrained scenarios too need to be mitigated as people living with HIV do not have adequate access to treatment. Future efforts to introduce PrEP among Indian MSM need to address social-structural as well as individual-level challenges for effective implementation and inclusion of PrEP into national HIV interventions.

WEPEC238
CHARACTERIZING BLACK MEN WHO HAVE SEX WITH MEN IN THE UNITED STATES WHO HAVE NEVER RECEIVED AN HIV TEST
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Background: Prevention and treatment responses to the high burden of HIV among Black MSM (BMSM) in the US require timely diagnosis of existing infection. Those unaware of their HIV-positivity, though a minority of BMSM living with HIV, are disproportionately represented in transmission and premature mortality. Those unaware of their HIV-positivity, though a minority of BMSM living with HIV, are disproportionately represented in transmission and premature mortality. Understanding factors associated with never receiving an HIV test can inform efforts that routinize testing and link those diagnosed with HIV into care.

Methods: Promoting Our Worth, Equality, & Resilience (POWER) is cross-sectional observational study that recruits BMSM at Black Pride events in six US cities. Participants complete an anonymous questionnaire and are offered free, confidential HIV testing. Those who forgo testing are asked to provide an oral sample for anonymous HIV antibody testing; participants do not receive this test result. Multivariable analysis adjusted for sociodemographics, internalized homophobia, and depressive symptomatology. All analyses controlled for city and were weighted according to POWER’s time-location sampling; we report unadjusted frequencies and weighted percentages.

Results: Our analytic sample included 2,675 BMSM who did not identify as HIV-positive. 243 (8.18%) had never received an HIV test (mean age = 29.05 years). Higher education was associated with increased odds of having received an HIV test (AOR=1.51, 95% CI: 1.33 - 1.70) and greater internalized homophobia reduced odds (AOR=0.75, 95% CI: 0.63 - 0.90). Among those who never received an HIV test, greater age was associated with increased odds in assuming HIV-positivity (AOR=1.03, 95% CI: 1.01 - 1.09) and health insurance lower odds (AOR=0.19, 95% CI: 0.07 - 0.52). Though 202 (82.60%) received HIV testing through participation in POWER, a majority of those 202 testing (57.14%) elected not to receive their result. Greater age (AOR=1.07, 95%, 1.01 - 1.13), assumption of HIV-positivity (AOR=6.60, 95% CI: 1.72 - 25.23), and choosing not to receive HIV test result (AOR=2.83; 1.18 - 6.79) were all associated with increased odds of an HIV-positive test result (27.98%).

Conclusions: Relatively few BMSM had never received an HIV test, but this group had a high likelihood of HIV infection. Our results indicate need for alternative strategies that overcome existing barriers to providing needed HIV prevention and treatment to a group of underserved BMSM.

WEPEC239
PRE-EXPOSURE PROPHYLAXIS (PrEP) AWARENESS AND USE AMONG A US BASED, MULTI-CITY SAMPLE OF BLACK MEN WHO HAVE SEX WITH MEN
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Background: Although Pre-Exposure Prophylaxis (PrEP) is an effective and available form of HIV prevention, this approach remains largely underutilized by individuals at-risk for HIV transmission. Further, there is limited empirical work that delineates what factors relate to PrEP awareness and uptake among populations in need. In this study, we sought to examine correlates of PrEP awareness and use among a large, multi-city, US-based sample of HIV negative/unknown status Black men who have sex with men (BMSM).

Methods: The current paper presents data from an ongoing multi-site, community-based sample of BMSM collected in 2014 (N=1,274) and 2015 (N=1,442) at Black Pride events in Atlanta, GA; Detroit, MI, Houston, TX, Philadelphia, PA, and Washington, DC. This study employed random time-location sampling to maximize representativeness of BMSM attending these events. Bivariate and multivariate generalized linear modeling were used to examine whether demographic factors (e.g. age, income, education) or sexual risk taking (frequency of condom use, receptive or insertive anal sex) factors were related to PrEP awareness and use.

Results: Awareness of PrEP increased between 2014 and 2015 (38%-52%), and use of PrEP increased between 2014-2015 (4.6%-9.4%). Findings varied greatly across cities within the US. Our analyses demonstrated that greater frequencies of condom use during anal sex as the receptive partner and as the insertive partner were associated with a significantly greater likelihood of being aware of PrEP. Further, lower frequency of condom use during receptive anal sex was significantly associated with a greater likelihood of currently using PrEP.

Conclusions: Overall, awareness and uptake of this HIV prevention strategy continues to lag and evidence from our study suggests that PrEP may not be reaching those in greatest need of it; we found that lower frequencies of condom use were associated with less likelihood of being aware of PrEP. Importantly though, among BMSM who are using PrEP, it does appear to be reaching BMSM who could benefit most from it. In order to slow the HIV epidemic among BMSM, we must place greater emphasis on engaging all BMSM to ensure we are not missing those who are in greatest need of prevention interventions.
WEPEC240
SIGNIFICANT HEALTH COMORBIDITIES IN BLACK MEN WHO HAVE SEX WITH MEN PRESENTING FOR A US PREP STUDY


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Background: HPTN 073 evaluated initiation, acceptability, safety, and feasibility of pre-exposure prophylaxis (PrEP) for Black men who have sex with men (BMSM) a group disproportionately impacted by the US epidemic.

Methods: A total of 226 HIV-uninfected BMSM in three US cities were enrolled between 8/2013 and 9/2014 and offered once daily oral FTC/TDF combined with a Client Centered Care Coordination counseling (C4) intervention. This analysis examined clinical reasons for study exclusion and pre-existing conditions among those enrolled, in order to inform programs designed to increase PrEP use among BMSM.

Results: A total of 118 BMSM (27.1% ± 2.5 years of age) were excluded from enrollement. Of those, 39.8% were excluded due to medical reasons, including 21.2% with abnormal liver or kidney function, 8.5% with other abnormal lab results, and 8.5% with other serious and active mental or medical illnesses. Those enrolled were younger (40.3% ± 25 vs. 27.1%, p < 0.02) and more likely to have annual household incomes >$20,000 (50.9% vs. 36.5%, p = 0.005) than those not enrolled. Among those enrolled (N=226), only 19.0% presented without pre-existing conditions. Nearly two-thirds (65.5%) had at least one clinically significant comorbidity.

Among BMSM presenting for enrollment in this PrEP study, clinically meaningful health co-morbidities were highly prevalent. These conditions not only impacted the enrolled population disproportionately but also presented clinically significant co-morbidities in two or more organ systems.

<table>
<thead>
<tr>
<th>Cardiovascular</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary artery disease, hypertension, hypercholesterolemia, cardiomyopathy, a fib, bradychardia, heart murmur, Raynaud’s Syndrome</td>
<td>34 (15.0%)</td>
</tr>
<tr>
<td>Renal</td>
<td>11 (4.9%)</td>
</tr>
<tr>
<td>Endocrine</td>
<td>3 (1.3%)</td>
</tr>
<tr>
<td>Renal</td>
<td>3 (1.3%)</td>
</tr>
<tr>
<td>Heparin</td>
<td>13 (5.8%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>31 (13.2%)</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>32 (14.2%)</td>
</tr>
<tr>
<td>Anxiety, depression, attention deficit hyperactivity disorder, panic attacks, bipolar, dissociative identity disorder, post-traumatic stress disorder, schizophrenia-like disorder</td>
<td>67 (29.6%)</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>14 (6.2%)</td>
</tr>
<tr>
<td>Neurologic</td>
<td>3 (1.3%)</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>3 (1.3%)</td>
</tr>
<tr>
<td>Gastro-esophageal reflux disease, irritable bowel syndrome, proctitis, gastritis, peri-anal fistula, anal fissure, hemorrhoids, ulcer, diverticulitis</td>
<td>22 (9.7%)</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>12 (5.3%)</td>
</tr>
<tr>
<td>Neutropenia, anemia, benign tumor leg, thalassemia, Mastocytosis (unknown reasons)</td>
<td>5 (2.2%)</td>
</tr>
<tr>
<td>Infectious disease/Rheumatologic</td>
<td>11 (4.9%)</td>
</tr>
<tr>
<td>Skin abscess / boils, cellulitis, periodontal infections / endocarditis, prostate infections, sinus infections, recurrent otitis media, bacterial meningitis, staph infections, pneumonia, eye / corneal ulcers</td>
<td>10 (4.4%)</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>8 (3.5%)</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>8 (3.5%)</td>
</tr>
<tr>
<td>Dermatologic</td>
<td>10 (4.4%)</td>
</tr>
<tr>
<td>Eczema</td>
<td>9 (4.0%)</td>
</tr>
</tbody>
</table>

[Table 1: Significant Pre-Existing Conditions among BMSM in a US PrEP study]

Conclusions: Among BMSM presenting for enrollment in this PrEP study, clinically meaningful health co-morbidities were highly prevalent. These conditions not only excluded a significant number of BMSM from study participation but also were widespread among those who enrolled. This is important given that these are relatively young men, many of whom lack insurance and are economically disadvantaged. These findings highlight the urgent need to better address the myriad health needs of BMSM to optimize HIV prevention.

WEPEC241
EVERYONE’S TRYING TO MAKE Sense of THIS NEW REALITY: A QUALITATIVE STUDY OF THE PREP READINESS CONTINUUM AMONG GAY AND BISEXUAL MEN IN TORONTO, CANADA

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Background: Pre-Exposure Prophylaxis (PrEP) has not been approved in Canada, but some physicians prescribe off-label PrEP usage of daily emtricitabine/tenofovir. Given WHO recommendations to make PrEP accessible to men who have sex with men (MSM), we explored decision-making processes, experiences around PrEP access and use among MSM in Toronto.

Methods: PrEP users and non-users were recruited through flyers posted in community agencies and clinics in Toronto. We conducted in-depth, semi-structured interviews to explore PrEP knowledge, decision-making around uptake, access, sexual behaviors/relationships and health. Interviews were audio-recorded and transcribed. We applied thematic analysis, with open and axial coding, using a constant comparative method.

Results: From Oct-Dec 2015, 23 participants (mean age=37 years; 21 gay, 2 bisexual; 1 white, 2 black, 2 Latin, 2 Asian, 2 Middle-Eastern), completed 45m-90m interviews. 12 were PrEP users, 11 non-users. Most reported sex with multiple partners and inconsistent condom use. All were familiar with and had accessed information about PrEP. Both PrEP users and non-users expressed strong views about personal responsibility and self-care, with trust and concern about HIV infection emerging as important themes: non-users made trust-based decisions about when to use condoms; PrEP users indicated they could only trust themselves, reporting decreased anxiety after condomless or serodiscordant sex. Non-users expressed concerns about long-term safety, needing to use condoms for other STIs, and barriers due to out-of-pocket cost/inadequate insurance coverage. PrEP users indicated uptake due to consistent condom use, and reported no longer using condoms unless requested by partners. Users reported no barriers or stigma from healthcare providers. Some openly disclosed PrEP use to friends, sexual partners, and family; others selectively disclosed due to anticipated stigma.

Conclusions: Rather than a binary, we identified a continuum of readiness to use PrEP among gay/bisexual men at risk for HIV infection. Some non-users considered PrEP a future option and some wanted to use PrEP but couldn’t afford it; some users considered terminating PrEP, with most hoping for an HIV vaccine. Future research should explore the continuum of PrEP readiness among gay/bisexual men, with attention to social support, mental health, stigma, and geographic differences, and barriers in access due to cost and inadequate insurance coverage.

WEPEC242
ADHERENCE TO PRE-EXPOSURE PROPHYLAXIS AMONG LOW-FEE FEMALE SEX WORKERS IN CHINA

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Background: Low-fee FSWs may be good candidates for PrEP in China due to their high HIV prevalence and low consistent condom use. No published studies have investigated PrEP adherence among low-FSWS. Our study aims to evaluate PrEP adherence among them, and determine whether PrEP is appropriate for this population.

Methods: First, participants underwent physical examination and those meeting inclusion criteria (HIV positive, infected with hepatitis B, or pregnant or breastfeeding were excluded) completed a baseline survey. The outreach workers distributed 15 TDF pills and 1 portable pill box to each participant. Participants were instructed to take one TDF pill once daily; second, follow-up visits were conducted every 15 days. Local outreach workers counted the remaining TDF pills and then administered a structured questionnaire; Finally, after 6 follow-up visits, a second physical examination (identical to pre-study) was carried out. Two indicators, retention to social support, mental health, stigma, and geographic differences, and barriers in access due to cost and inadequate insurance coverage.

Results: A total of 105 low-fee FSWs participated in the physical examination (7 participants tested HIV positive, and 13 participants refused to participate without giving specific reasons), 85 participants were enrolled. Three months’ cumulative retention rate was 58.8%. Significant differences were found among participants of different venues, 72.7% of participants who worked in self-rented rooms or “market

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day" buildings remained in the cohort while 43.9% of participants in small beauty salons massage rooms or guest houses did (P = 0.015). The main reasons for dropping out were participants’ intent to return to their hometown for several months and intolerance for self-reported side effects. Pill-missing rate was highest (29.8%) in the first follow-up visit, and declined to 4.0% in the final follow-up visit. The most frequently reported reasons for missing a single dose were because participants forgot to take their pill or returned to their hometown for several days.

Conclusions: Low-fear FSWs who work in self-rented rooms “market days” buildings had cumulative retention rates higher than 70% and are potentially good candidates for PrEP. Targeted adherence motivation measures should be implemented to further decrease drop out and missed pill doses.

WEPEC243 THE ACCEPTABILITY AND FEASIBILITY OF PERIODIC PRE-EXPOSURE PROPHYLAXIS (PREP) FOR FEMALE PARTNERS OF MIGRANT MINERS IN THE GAZA PROVINCE OF MOZAMBIQUE

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Background: Migrant miners returning from South Africa to Mozambique are at substantial risk for HIV infection and consequently for transmission to their sexual partners. We conducted a study to assess the feasibility, acceptability and willingness for PrEP uptake among female partners of migrant miners during miners’ home visits to inform a future periodic PrEP study among female partners.

Methods: A cross-sectional study, including quantitative surveys, in-depth interviews and focus group discussions, was conducted in Gaza Province in Mozambique. Quantitative data were analyzed using Stata. A structured coding scheme was developed and qualitative data were entered and analyzed using Atlas.ti.

Results: Between September to October 2015, 207 individuals were enrolled (45% female partners of miners, 18% miners and 37% others including widows, ex-wives and/or other family members of a miner). Median age was 42 years. Most participants (95%) were willing to take PrEP for a period of 8-10 weeks. For female partners and for miners, respectively, facilitating factors for PrEP uptake were: concerns regarding side effects (33%), partner/family or community disapproval (22%), and regular pill intake (24%). For female partners, the main potential barriers for PrEP uptake were: concerns regarding side effects (33%), partner/family or community dissatisfaction (22%), and regular pill intake (21%). For miners, the main potential barriers indicated were: regular pill intake (24%) and fear of side effects (22%).

The qualitative analysis confirmed that PrEP was highly acceptable and overall participants saw potential barriers for PrEP uptake as minor obstacles that could be overcome. The miner’s influence on female partner’s PrEP uptake was significant (AOR 95% CI: 0.00-0.78), reporting sex for trade in the past month (AOR 0.3, 95% CI: 0.09 - 0.98), and lower education (AOR 0.3, 95% CI: 0.09 - 0.97) were less likely to have protective TFV-DP levels. Other adherence measures varied significantly predicted protective TFV-DP levels at week 4 (Figure).

Predictive capacity did not differ by race/ethnicity.

WEPEC244 DAILY ORAL TFV/FTC PREP USE AMONG MSM IN LOS ANGELES MULTISITE DEMONSTRATION PROJECT

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Background: Daily oral tenofovir-DP/emtricitabine (TDF/FTC)-based pre-exposure prophylaxis (PrEP) is effective for HIV prevention in MSM/TGW. Demonstration projects and clinical experience are informing real-world effectiveness and implementa-

tion challenges. Predictors of adherence and comparisons of self-report and objective measures were evaluated in the Los Angeles PATH-PrEP Demonstration Project.

Methods: HIV-uninfected MSM/TGW seeking HIV prevention services in Los Angeles were screened at two sites. Enrolled participants were assigned to PEP-based or PrEP-based cohorts based on self-reported risk. PEP-participants were offered open-label daily oral TDF/FTC. Risk behavior and medication adherence were assessed over 48 weeks. PEP-participants were educated about PEP use and available. If sexual risk increased, those assigned to PEP “escalated” into PrEP. Logistic regression determined predictors of PrEP adherence by self-report, MEMS, plasma TFV and DBS TFV-DP.

Results: Between May 2013 and June 2015, 823 individuals expressed interest; 301 enrolled. Median age was 34y; 50.7% non-Hispanic white, 12.4% non-Hispanic black, 28.1% Hispanic. Twenty-three (7.6%) were assigned to PEP, 19 (82.6%) escalated to PrEP. Intraerythrocytic TFV-DP levels were available from 274 participants (91%) at week 4; 85.8% had levels consistent with ≥4 doses/week. In multivariable analysis, non-Hispanic black participants (AOR 0.26, 95% CI: 0.09-0.78), reporting sex for trade in the past month (AOR 0.3, 95% CI: 0.09 - 0.98), and lower education (AOR 0.3, 95% CI: 0.09 - 0.97) were less likely to have protective TFV-DP levels. Other adherence measures varied significantly predicted protective TFV-DP levels at week 4 (Figure).

Predictive capacity did not differ by race/ethnicity.

WEPEC245 FORMULATION OF A THEORETICALLY-BASED, PERSONALIZED HIV PREP ALGORITHM FOR GAY AND BISEXUAL MEN VISITING A COMMUNITY-BASED CLINIC IN LOS ANGELES, CALIFORNIA

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Background: Pre-exposure prophylaxis (PrEP) has emerged as an HIV prevention tool for populations at highest risk for HIV infection. Current CDC guidelines for identifying PrEP candidates may not be specific enough to identify gay, bisexual, and other men who have sex with men (MSM) at the highest risk for HIV infection. The primary goal of this study is to create an HIV risk score for HIV-negative MSM to inform more targeted criteria for PrEP use.

Methods: Behavioral risk assessment and HIV testing data were analyzed for HIV-negative MSM attending the Los Angeles LGBT Center between January 2009 and June 2014. Multivariate Cox Proportional Hazards Model was used to determine the variables significant in HIV contraction over the follow-up period.

Results: Self-reported history of Chlamydia, Gonorrhea, and/or Syphilis (p < 0.0001); receptive anal sex (p < 0.0001); race/ethnicity of last sex partner (p = 0.0002); number of sex partners in the last three months (p = 0.0001); methamphetamine use (p = 0.0004) and nitrates use (p = 0.0001) were all significant predictors of HIV infection during follow-up. Intimate partner violence, relative age of last sex partner and ecstasy use were not significant.
WEPEC246

COST-EFFECTIVENESS OF PRE-EXPOSURE HIV PROPHYLAXIS DURING PREGNANCY AND BREASTFEEDING IN SUB-SAHARAN AFRICA


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Background: Oral antiretroviral pre-exposure prophylaxis (PrEP) for the prevention of HIV acquisition is cost-effective when delivered to those at substantial risk. Despite the high incidence of HIV infection in pregnant and breastfeeding women in sub-Saharan Africa (SSA), an increased risk of preterm birth (PTB) attributable to HIV prevalence data. The model was used to predict the cumulative reduction in HIV incidence per 100 person years (PY) of PrEP, as well as the incremental cost to the HIV programme of PrEP provision per HIV infection averted, over the 2017-2027 period, under different PrEP distribution strategies. Additional scenarios assessed whether results would change in the presence of ‘self-selection’, assuming that high risk individuals are five times as likely to initiate PrEP as low risk individuals. Results: The number of infections averted per 100 PY of PrEP are substantially higher, and the incremental cost per HIV infection averted is substantially lower, if PrEP is provided to adolescents (aged 15-19) than if PrEP is provided to other age groups (Figures 1a and d). However, limiting PrEP to one sex does not substantially alter PrEP efficiency, except in the case of adolescents if there is significant self-selection (Figure 1b). If PrEP is offered to youth aged 18-24, there are additional efficiency gains from limiting provision to provinces such as Eastern Cape (EC) and Kwazulu-Natal (KZ) (Figure 1c). Self-selection could double efficiency and cost-effectiveness.

WEPEC247

STRATEGIES FOR MAXIMIZING THE EFFICIENCY OF PREP: A COMPARISON OF THE IMPACT AND COST-EFFECTIVENESS OF GEOGRAPHICALLY-FOCUSED, SEX-FOCUSED AND AGE-FOCUSED PREP DISTRIBUTION STRATEGIES

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Background: WHO guidelines recommend the promotion of PrEP in sub-populations in which HIV incidence exceeds 3% per annum, but there may be alternative ways to identify at-risk populations, which achieve a more efficient allocation of PrEP resources. Methods: To assess which PrEP distribution strategies would be most efficient and cost effective, a mathematical model of the South African HIV epidemic was developed. The model was calibrated to age-specific, sex-specific and province-specific HIV prevalence data. The model was used to predict the cumulative reduction in HIV incidence per 100 person years (PY) of PrEP, as well as the incremental cost to the HIV programme provision of PrEP per HIV infection averted, over the 2017-2027 period, under different PrEP distribution strategies. Additional scenarios assessed whether results would change in the presence of ‘self-selection’, assuming that high risk individuals are five times as likely to initiate PrEP as low risk individuals. Results: The number of infections averted per 100 PY of PrEP are substantially higher, and the incremental cost per HIV infection averted is substantially lower, if PrEP is provided to adolescents (aged 15-19) than if PrEP is provided to other age groups (Figures 1a and d). However, limiting PrEP to one sex does not substantially alter PrEP efficiency, except in the case of adolescents if there is significant self-selection (Figure 1b). If PrEP is offered to youth aged 18-24, there are additional efficiency gains from limiting provision to provinces such as Eastern Cape (EC) and Kwazulu-Natal (KZ) (Figure 1c). Self-selection could double efficiency and cost-effectiveness.

WEPEC248

CULTURALLY COMPETENT PREP CARE: INSIGHTS FROM PROVIDERS AND POTENTIAL PATIENTS (SEXUALLY ACTIVE BLACK MSO)

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Background: Pre-exposure prophylaxis (PrEP) could decrease HIV incidence among men who have sex with men (MSM), a population disproportionately affected by HIV. However, access to PrEP requires disclosing sexual history to a healthcare provider, which may be challenging for many given taboos surrounding sexuality and same-sex behavior. In this qualitative study, strategies and preferences for patient-provider communication surrounding same-sex behavior in the context of PrEP were examined from the perspective of both PrEP prescribers and potential PrEP patients. Methods: Individual 90-minute interviews were conducted with geographically diverse, U.S.-based PrEP providers (n=18) by phone or in person (2014-2015). Six 90-minute focus groups were conducted with sexually active, HIV-negative Black MSM (n=36) in the New York City metropolitan area (2015). Interviews and focus groups were transcribed and thematically analyzed. Results: Providers (94% MDs/72% men/39% White) utilized various strategies to maximize their patients’ comfort and candor during sexual history discussions. Strategies included prefacing sexual history questions with acknowledgment of

WEPEC249

PREVENTING HIV TRANSMISSION TO BIRTH PARTNERS OF HIV-INFECTED MOTHERS: EFFECTIVENESS AND ACCEPTABILITY OF DUAL PROPHYLAXIS MODALITIES IN PERU

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their sensitivity, explaining their relevance to patient care, and providing assurance that the questions were routinely asked to all patients. Providers strove to cultivate a non-judgmental atmosphere and communicate acceptance of sexual diversity by using neutral language when inquiring about partner gender (“men, women, or both”), familiarizing themselves with colloquialisms for same-sex behaviors, and asking patients about preferred terminology. Confidentiality was also emphasized. Despite these efforts, providers recognized that patients did not always fully disclose their sexual histories. Corroborating this perception, several Black MSM receiving care from sites not specifically identified as LGBT-friendly reported limiting or modifying aspects of their sexual histories, providing only the minimum they perceived as necessary for care or indirect cues about their same-sex behavior due to discomfort with disclosure. Provider authenticity and expertise increased their comfort. They expressed a preference for PrEP to be included in routine discussions of sexual health and presented as a prevention option for a diversity of individuals vs. exclusively for MSM.

**Conclusion:** Providers may optimize PrEP care for Black MSM by clearly demarcating their practice as LGBT-friendly, communicating acceptance for sexual diversity, asking direct questions about sexual behavior, and including PrEP among the safer sex options routinely discussed.

**WEPEC249**

**IMPLEMENTATION OF PRE-EXPOSURE PROPHYLAXIS (PREP) IN NEW YORK STATE**

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**Background:** The New York State (NYS) Department of Health AIDS Institute convened a statewide PrEP Implementation Forum in August 2015 to provide an overview on the implementation of PrEP services in New York State. 95 participants (49 healthcare providers, 11 consumers, and 35 public health officials) attended the forum.

**Description:** At the forum, 8 clinical sites in NYS presented an overview of the structure of their PrEP programs, described the demographics of their patient populations, identified successful practices and common implementation barriers, and discussed next steps and challenges for improving implementation in NYS.

**Lessons learned:** From 2012-2015, 2577 patients enrolled in PrEP programs at 8 clinical sites throughout NYS. Sites emphasized that having a full-time PrEP specialist to handle insurance navigation, case management, and/or patient counseling was integral to program success. In addition, sites strongly recommended using a multidisciplinary team approach with a PrEP specialist, clinical providers and pharmacists, and prevention educators to provide services. Half of the sites noted that navigating insurance for under- and uninsured patients and limited PrEP knowledge among staff were the most common barriers to implementation.

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**WEPEC250**

**PREP DISCONTINUATION AND ONGOING RISK ASSESSMENT AS PART OF THE DELIVERY OF AN INTEGRATED PREP AND ART HIV PREVENTION STRATEGY FOR AFRICAN HIV SERODISCORDANT COUPLES**

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**Background:** HIV-negative persons are vulnerable to HIV acquisition when HIV-positive partners have unsuppressed HIV viremia. PrEP is a proven prevention strategy that can provide protection during these times. When HIV risk is mitigated through ART use, however, PrEP can be discontinued.

**Methods:** We enrolled Kenyan and Ugandan HIV serodiscordant couples with high HIV transmission risk and delivered an integrated PrEP and ART strategy. All HIV-negative partners were offered PrEP until their HIV-positive partner sustained ART use for 26 months, when viral suppression would be expected. PrEP discontinuation was then encouraged. Couples were seen every three months for HIV prevention counseling, HIV testing and PrEP refills for negative partners, 6-monthly CD4 and viral load measurements for HIV-positive partners, and ART and ART adherence counseling, and interviewer-administered behavioral questionnaires.

**Results:** We enrolled 1013 high risk HIV serodiscordant couples from 4 sites in Kenya and Uganda. In 67% of couples, the woman was the HIV-positive partner. At enrollment, 65% of couples reported having condomless sex in the prior month and the median viral load of HIV-positive partners was 4.6 log copies/ml (IQR 3.8-5.0). After two years, 89% of HIV-positive partners had initiated ART and 91% of those were virally suppressed (HIV RNA < 400 copies/ml). 97% of HIV-negative partners used PrEP between 25-34 years old. X 7

**Conclusions/Next steps:** New PrEP programs are inhibited by a lack of understanding among staff about PrEP insurance programs. Prioritizing resources to fund PrEP specialists and applying multidisciplinary team approaches to services were identified as essential to the success of new PrEP programs. As PrEP programs move beyond the initial phases of implementation, it is important to identify new implementation barriers and accordingly adjust best practices to respond to changing needs.
Background: Quality metrics specific to PrEP have not yet been created and widely used. The NYS Department of Health's PrEP Institute convened a statewide PrEP Implementation Forum in August 2015 to generate recommendations to develop PrEP quality measures. 95 participants (49 healthcare providers, 11 consumers, and 35 public health officials) attended the forum.

Description: Prior to the forum, a modified Delphi survey was sent to Forum participants. Participants were divided into 4 groups and rotated “World-Café” style to provide recommendations for developing PrEP quality metrics.

Lessons learned: Despite the newness of PrEP service models, participants successfully identified key measures for monitoring their quality. The use of a formal Delphi survey and facilitated focus group discussions with consumers, providers, and policymakers serves as an effective platform for developing PrEP quality metrics.

[Key forum recommendations for PrEP quality metrics]

Conclusions/Next steps: As PrEP uptake and implementation increases, PrEP quality metrics will be an important tool in accurately assessing the quality of PrEP services. The results from the modified Delphi Survey and recommendations from the forum will be used to guide the development of PrEP quality metrics which will be stratified by the following categories: clinical, patient experience, organizational, and population.

WEPEC253
SCALING UP PRE-EXPOSURE PROPHYLAXIS (PREP) AS A STRATEGY TO ELIMINATE HIV TRANSMISSION AMONG MEN WHO HAVE SEX WITH MEN (MSM): A MODELING STUDY

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Background: PROUD and IPERGAY studies both demonstrated a 86% HIV risk reduction by pre-exposure prophylaxis (PrEP), nearly twice better than the 44% efficacy reported by the earlier iPrEX study. Therefore, previous modeling studies, which were based on iPrEX data, might under-estimate the actual impact of scaling-up PrEP among key population. We aimed to incorporate the newest data into evaluating the population-level impact of PrEP and investigate the conditions under which the scaled-up PrEP program drives the HIV epidemic into elimination.

Methods: We constructed a dynamic model of HIV transmission and disease progression among men who have sex with men (MSM) in Taiwan, taking HIV cascades, age/risk structure, and demographic transmission into consideration. The model was fitted to HIV surveillance data from 1990 to 2014. We evaluated the impact of scaling-up PrEP to 25-75% coverage, among MSM aged 15-44, on the trajectory of the HIV epidemic among all MSM.

Results:

The figure shows the predicted epidemic curves under different level of PrEP scaled-up. The baseline scenario is the current level of HIV test-and-treat among MSM in Taiwan (72% knew their HIV status, 58% were prescribed highly active retroviral therapy). Without PrEP, HIV will remain endemic in MSM by 2035 and beyond, with 500 new infections annually (green line). Scaling up PrEP to 36% coverage will drive the HIV into elimination among 15-44 year-old MSM (incidence< 1/1000 person-years; dash line) by 2035 (red line), even though HIV test-and-treat remains at the current level. Increasing coverage of PrEP to 43% will achieve the goal of HIV elimination by 2030, with prevention of 17,584 new HIV infection (64%) during 2016-2050 (blue line).

Conclusions: Scaling up PrEP to 36% or more coverage among key population is an effective strategy to eliminate HIV transmission. Higher PrEP coverage will accelerate the achievement of the goal.

Figure 1. Impact of scaling-up PrEP on the trajectory of HIV epidemic among MSM in Taiwan
WEPEC254
PERCEPTIONS OF HIV PRE-EXPOSURE PROPHYLAXIS (PREP) IN KWAZULU-NATAL PROVINCE, SOUTH AFRICA

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Background: Despite a large treatment program, South Africa continues to have high adult HIV prevalence and incidence. New prevention strategies such as oral pre-exposure prophylaxis (PrEP) for HIV using a fixed dose of tenofovir disoproxil fumarate and emtricitabine are needed to reduce HIV incidence. Previous studies, however, have shown that PrEP efficacy is highly dependent on medication adherence. Little is known about interest in PrEP and the factors that may affect adherence in rural South Africa.

Methods: In 2015, 200 interviews were conducted with self-reported HIV-negative community members in the rural Msinga subdistrict of KwaZulu-Natal province.

Results: Of the 200 community members interviewed, median age was 27 (IQR=22-34) years. 56.5% were female, 88.5% knew that condom use would protect against HIV acquisition, but 20% reported never using a condom; 30% reported at least 2 sexual partners in the last month. Both male (89.7%) and female respondents (92.9%) expressed interest in PrEP. Stigma assessments indicated 51.3% believed HIV positive individuals were infected because of their own carelessness, 59.3% believed others would think they have HIV if they were taking PrEP, and 21.6% believed others would avoid them if they were taking PrEP. Furthermore, participants identified as medium risk were eligible to enter the study based on the presenting health care workers, expressed great interest and potential benefit from PrEP. However, stigma against those with HIV may influence adherence to the PrEP regimen. Further efforts are needed to engage and educate community members about PrEP and to determine its optimal implementation strategy in rural communities.

WEPEC255
USE OF BEHAVIOURAL ELIGIBILITY CRITERIA TO IDENTIFY HIGH-HIV RISK GAY MEN FOR ENROLLMENT IN A PRE-EXPOSURE PROPHYLAXIS (PREP) STUDY IN NEW SOUTH WALES, AUSTRALIA

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Background: Pre-exposure prophylaxis (PrEP) is a highly effective HIV prevention strategy in high-risk individuals. Australian criteria for determining eligibility for PrEP focus on individuals who report high-risk behaviours, and were first trialled in the PrEP demonstration project PRELUDE. We assessed the risk profile of participants to evaluate how these behavioural risk criteria performed.

Methods: PRELUDE is an ongoing, open-label, single-arm demonstration study of oral Truvada as PrEP. Participants are predominately gay and bisexual men (GBM), with a small number of transgender individuals and women in serodiscordant relationships. Here, we present descriptive statistics of behavioural and demographic data from a 20-question, self-administered pre-screening form (n=295 GBM). Participants identified as medium risk were eligible to enter the study based on the prescriber’s clinical judgement.

Results: Median age of participants was 36 years (range: 20-69 years); 64% were born in Australia. The majority (82%) were employed, and 81% had attained post-secondary education. Overall, 249 GBM (84%) met at least one, and 48% met two or more of the four high-risk eligibility criteria. Two-thirds of participants were enrolled in PRELUDE based on meeting the highest-risk criterion, HR2 (Table 1). Of all high-risk participants, 51% who met the criterion 2, and 78% of participants who met criterion 4, also met at least one other high-risk criterion. Furthermore, participants had a high ongoing risk of contracting HIV, with 95% believing they were likely to have multiple events of condomless intercourse in the next 3 months.

WEPEC256
PREP INTEREST, ELIGIBILITY AND INITIATION BY MSM AND TRANSWOMEN IN CAPE TOWN AND PORT ELIZABETH, SOUTH AFRICA

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Background: Men who have sex with men (MSM) and transgender women (trans-women) experience high rates of HIV infections globally. Pre-exposure prophylaxis (PrEP) is an efficacious prevention modality, and Truvada is approved for PrEP in South Africa. However, PrEP implementation for MSM in South Africa has been largely limited to randomized clinical trials.

Methods: The Sibanye Health Project is a study of MSM/transwomen in Cape Town (CT) and Port Elizabeth (PE), South Africa, recruited by outreach in community settings. At baseline, participants were tested for HIV. If HIV-negative, PrEP was offered as part of a comprehensive HIV prevention package, including prevention counseling, STI testing and condom and lubricant distribution. Demographic, behavioral, and clinical data were collected through tablet-administered surveys and by study staff. Overall and by city, we describe the proportions of MSM/transwomen who were interested in initiating PrEP, met behavioral criteria, met clinical criteria, and started PrEP. Initiation by age, race, and city were assessed using chi-square tests.

Results: We enrolled 292 participants (115 in CT and 177 in PE) of whom 167 (57%) were HIV-negative. Overall, 95% of HIV negative participants were interested in PrEP; 87% met behavioral criteria; 77% met clinical criteria; and 48% initiated PrEP (Figure). Eighty of 129 eligible participants initiated PrEP (62%). Of 17 ineligible for clinical reasons, most had hepatitis B infection (5) or elevated liver enzymes (7). PrEP initiation did not differ by age or race, but was higher in CT (p=0.04).

Conclusions: Levels of interest and eligibility for PrEP were high among MSM/transwomen in PE and CT. About two thirds of those eligible initiated PrEP. These data illustrate that interest in PrEP is high, behavioral and clinical screening for PrEP is feasible in diverse urban settings, and high PrEP coverage is possible when it is offered as part of a comprehensive package of HIV prevention services.
WEPEC257

BASELINE CHARACTERISTICS AND SUITABILITY OF PARTICIPANTS ENROLLED IN AN OPEN-LABEL ORAL PRE-EXPOSURE PROPHYLAXIS STUDY FOR HIV-NEGATIVE ADOLESCENTS IN SOUTH AFRICA

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Background: Adolescents in sub-Saharan Africa are at high-risk for HIV, with up to 45% of heterosexual transmissions in South Africa occurring in young women. While Truvada as pre-exposure prophylaxis (PrEP) has been well established in adults, there are no data on PrEP in adolescent populations in sub-Saharan Africa. We aimed to describe the baseline characteristics and suitability for oral PrEP of participants enrolled in an open-label adolescent PrEP study.

Methods: PlusPills is an ongoing open-label study examining the use, feasibility and acceptability of daily oral Truvada as PrEP in HIV-negative adolescents. Female and male participants aged 15-19 years were recruited in two peri-urban settings in Johannesburg and Cape Town. Study staff collected demographic, behavioural and clinical data. Those who were not sexually active, and those who were found to be HIV positive or pregnant at screening were excluded. Eligible female participants willing to use hormonal contraception, and eligible male participants were consented for daily oral PrEP as part of a combination HIV prevention package which included condoms and sexually transmitted infection (STI) screening and treatment. Baseline characteristics recorded included age, gender, sexual behaviour, pregnancy, HIV and STI screening.

Results: To date, 154 adolescents were screened, and 100 participants have enrolled (recruitment target =150). Of those screened, three were HIV positive (2%) and eight girls (9%) were pregnant. Sixty females and forty males were enrolled, with a mean age of 18 (range 15-19) and 17 (range 15-17) respectively. Of these, 57 (57%) tested positive for sexually transmitted infections (STIs) at baseline. Thirty-two participants tested positive for chlamydia, 16 for herpes simplex-2, and 9 for gonorrhoea. Participants reported high-risk sexual behaviour, with 24 of 52 (46%) participants reporting previous condomless sex, 14 (27%) reporting multiple concurrent sexual partners, and 7 (13%) reporting intergenerational sex.

Conclusions: The high numbers of STIs and pregnancies amongst participants indicate that these are not data on PrEP in adolescent populations in sub-Saharan Africa. Adolescents in this setting are therefore a key population in whom to investigate oral PrEP use and one that would derive significant benefit from pre-exposure prophylaxis.

WEPEC259

ACCEPTABILITY OF PREP FOR ADOLESCENTS IN SOUTH AFRICA: A KEY TARGET POPULATION FOR HIV PREVENTION

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Background: Oral antiretroviral pre-exposure prophylaxis (PrEP) holds enormous potential for expanding prevention strategies for adolescents, who account for 39% of all new global infections. Little is known about how unique developmental milestones of adolescence might influence PrEP acceptability. Research is needed to explore PrEP acceptability among adolescents in generalized epidemic settings driven by heterosexual transmission and with high prevalence of serodiscordant relationships.

Methods: We conducted an exploratory mixed-methods study in Cape Town, South Africa from 2015-2016. HIV-negative and HIV-positive adolescents, 16-17 years of age, were recruited from an urban township using systematic door-to-door sampling and an HIV-treatment clinic using convenience sampling. A computerized, cross-sectional survey, along with semi-structured focus and in-depth individual interviews, were used to gather socio-demographic data, quantify perceptions of PrEP efficacy, and investigate PrEP acceptability and predicted behavioral outcomes among adolescents. Clinicians completed a computerized survey and in-depth individual interviews. We conducted descriptive analysis of quantitative data using SPSS and thematic analysis of qualitative data using NVivo. Brown University and University of Cape Town provided ethical approvals.

Results: Adolescents (n=20) were black African, completed grade 8 or higher, and spoke primarily isiXhosa. The majority (90%) reported that they would want to use PrEP if they had a partner who was HIV-positive or of unknown status, or would support use of PrEP by a partner. All clinicians (100%) reported they would prescribe PrEP for adolescents who were sexually active and 62.5% reported they would support PrEP for intravenous drug users. Message framing influenced acceptability, in that clinicians were more likely to definitively support prescription of PrEP if told it had a 90% success rate (100%) as opposed to a 10% failure rate (50%). Both adolescents and clinicians voiced concerns about partial efficacy, side effects, adherence, off-label use, and potential behavioral impacts. Participants also reported conflicting opinions about which adolescents should be prescribed PrEP, with support for adolescents in serodiscordant partnership and concerns for adolescents using substances.

Conclusions: Findings identify key concerns that may affect PrEP acceptability among adolescents in South Africa. Future research should integrate mixed-methods to further explore potential outcomes of adult PrEP in adolescents.

WEPEC260

NAVIGATING PEP TO PREP TRANSITION: IMPORTANT CONSIDERATIONS AND EXPERIENCES OF A NEW YORK CITY LGBT CLINIC

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Background: Callen-Lorde Community Health Center (CLCHC) in New York City is a non-profit facility that predominantly cares for the LGBTQ communities. In addition to primary health and HIV services, the clinic has a robust HIV prevention and outreach department. CLCHC has provided Post-Exposure Prophylaxis (PEP) services since 2006. In 2012, after state and federal guidelines were released, the center also implemented a Pre-Exposure Prophylaxis (PrEP) program, currently the largest of its kind in NY State serving over 1,400 clients. A major challenge has been moving clients with ongoing HIV risk from PEP to PrEP seamlessly.

Description: In 2015 CLCHC provided 881 PEP interventions to 816 ethnically and socio-economically diverse LGBT-identified patients. 212 (26%) of these patients transitioned to PrEP. This required streamlining the usual PEP process to ensure...
Conclusions: One of these partners (1.5, IQR 1-3) during this period. Diagnoses (42/52) reported having condom-less sex with at least one of these partners (median 3, IQR 1-3). After 1 month of PrEP use, men (n=34) reported a median of 3 (IQR 1-7) during this 1 month interval. To maintain referral to PrEP clinics, men were contacted by injections (25.2%) and visible implants (4.3%). Qualitative analyses revealed that convenience, protection duration, and privacy were the most important attributes for selecting an HIV prevention method.

Methods: This mixed method study of an online sample of MSM (N=512; median age=22 years) conducted paired preference tests among five potential HIV prevention methods: condoms and four PrEP options - daily oral pill, a long-acting injectable, or two long-acting subcutaneous implants that differed in visibility to others. After this, we asked about preferences among only the four PrEP options.

Results: Of the 237 men who ever heard of PrEP (46.3%), only 6 (2.5%) used PrEP in the last 3 months. Paired preference tests indicated that while condoms were most frequently preferred (33.8%), the majority preferred a PrEP-related HIV prevention option. Kruskal-Wallis Tests indicated significant differences in the distribution of age (p=0.01) and education (p=0.01) across preferences. Participants who preferred condoms were significantly younger than those who preferred the non-visible implant (21 and 24 median age, respectively; p=0.01, DISCE multiple comparisons analyses). Those who preferred condoms and oral PrEP had lower educational attainment than those who preferred injections (p=0.04 and p=0.02, respectively, DISCE multiple comparisons analyses). Individuals who preferred the non-visible implant reported a higher percentage of condomless anal sex than those who preferred condoms (68.2% vs 47.4%; p<0.001, Fisher’s exact). In follow-up questions assessing preferences among the four PrEP options only, daily oral pills and non-visible implants were most frequently preferred (35.5% and 34.3%, respectively), followed by injections (25.2%) and visible implants (4.3%). Qualitative analyses revealed that convenience, protection duration, and privacy were the most important attributes for selecting an HIV prevention method.

Lessons learned: It is of vital importance. In 2015, the South African PrEP Demonstration Project launched in Cape Town and will offer 300 eligible MSM free access to PrEP within standard clinic settings. This project provides an opportunity to inform future roll out by assessing the profile of MSM interested in PrEP.

Background: As PrEP is being considered for broader scale up in South Africa, understanding how best to appropriately target this intervention to those who most need it is of vital importance. In 2015, the South African PrEP Demonstration Project launched in Cape Town and will offer 300 eligible MSM free access to PrEP within standard clinic settings. This project provides an opportunity to inform future roll out by assessing the profile of MSM interested in PrEP.

Methods: Eligible MSM received PrEP information during a standard visit to their MSM-sensitized clinic in Cape Town. Per existing guidelines, men initiated PrEP after screening and returning for periodic follow up. They received a standard package of care inclusive of risk reduction counseling. Demographics for all men were collected.

Results: Thus far 52 men have initiated PrEP and 34 have completed 1 month of PrEP use. The majority have sex exclusively with men (94%, 49/52), are white (73%, 35/48) and have a median age of 33 (IQR 31-40). Within three months before their PrEP initiation, men reported a median of 5 (IQR 2-8) sexual partners and 81% (42/52) reported having condom-less sex with at least one of these partners (median 2, IQR 1-3). After 1 month of PrEP use, men (n=34) reported a median of 3 (IQR 1-6) sexual partners and 76% (26/34) reported having condom-less sex with at least one of these partners (1.5, IQR 1-3) during this period.

Conclusions: The majority of MSM who have initiated PrEP through this project reported condom-less sex with multiple sexual partners both before and after PrEP initiation, although longer follow up is needed to identify significant changes in behavior and adherence. These initial findings suggest that this population are in need of, interested in, and able to use PrEP and may inform population targets for future PrEP roll out. Participant demographics may shift over time but current racial demographics suggest that targeted efforts are needed to reach a more equal distribution.
WEPEC264
PERCEPTIONS OF BARRIERS AND BENEFITS TO ADOLESCENT PRE-EXPOSURE PROPHYLAXIS (PrEP) UTILIZATION AND CLINICAL TRIAL PARTICIPATION: A STUDY OF AFRICAN AMERICAN MOTHERS AND THEIR DAUGHTERS
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Background: Compared to their racial/ethnic counterparts, African American adolescent girls are disproportionately impacted by HIV. Accordingly, innovative methods are needed to thwart the negative effects of HIV among this population. Approved by the Food and Drug Administration in 2012, PrEP has proven highly efficacious for HIV vulnerable adults. Yet, PrEP’s potential as an HIV prevention strategy for adolescent populations is currently unknown. This study sought to assess: 1) perceptions of barriers and benefits related to African American girls’ (ages 14-17) participation in PrEP clinical trials, and 2) perceptions related to potential utilization of various modes of PrEP delivery such as vaginal rings, microbicide gels, and injectables.

Methods: Fifteen African American mother/daughter pairs (N=30) were recruited from a two-armed, family-based randomized controlled trial. Knowledge, beliefs and attitudes related to adolescent PrEP utilization and clinical trial participation were assessed through a focus group discussion and questionnaire. The questionnaire also evaluated mother-daughter communication, sexual risk behavior, and HIV knowledge and attitudes. The focus group discussion was guided by a fifteen minute PrEP educational module which included a hypothetical clinical trial informed by two local community advisory boards.

Results: There was a general lack of knowledge and awareness about PrEP among both mothers and daughters. However, after receiving information about PrEP, participants carefully weighed the potential harms and benefits related to adolescent PrEP utilization and clinical trial participation. Overall, most mothers expressed a willingness to allow their daughters to take PrEP once approved, but indicated concerns about clinical trial participation primarily due to a lack of available evidence related to the long-term effects of PrEP for adolescents. Conversely, daughters expressed a willingness to participate in PrEP clinical trials and described both individual and societal level benefits associated with potential participation. Mothers additionally indicated a willingness to take PrEP, but expressed concerns surrounding PrEP acceptability, adherence and stigmatization.

Conclusions: Study findings uncover the need to: 1) develop PrEP clinical trial participant protection procedures specific to African American adolescent girls and guardians, and 2) implement ethically-sound strategies to strengthen the availability, accessibility and acceptability of new scientific advances in HIV for vulnerable populations.

WEPEC265
KEY INSIGHTS INTO ACCEPTABILITY AND USE OF THE VAGINAL RING: RESULTS OF THE MTN-020 ASPIRE TRIAL QUALITATIVE COMPONENT
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Background: The MTN-020/ASPIRE trial evaluated the safety and effectiveness of the dapivirine vaginal ring for prevention of HIV infection among African women. Participants’ acceptability of and use-adherence to novel biomedical study products are essential for assessing their true effectiveness and yield important insights regarding future uptake, sustained use, and potential public health impact.

Methods: The qualitative component of ASPIRE was conducted at 6 of 15 study sites in Uganda, Malawi, Zimbabwe and South Africa. Qualitative study participants (n=214) were enrolled into one of 3 interview modalities: single in-depth interview (IDI; n=34), up to 3 serial IDIs (n=80), or exit Focus Group Discussion (n=100). Using semi-structured guides administered in local languages, 280 interviews were audio-recorded, transcribed, translated, coded and analyzed with NVivo using matrices and code summary reports. Guided by a conceptual framework, we evaluated how well the ring was liked, used and integrated into participants’ lives.

Results: Participants were on average 26 years, 45% were married, and 73% had completed secondary school. The majority disclosed trial involvement (72%) or ring use (59%) to male partners. We identified three key findings: 1) Participants liked both the ring and trial participation. Using the ring felt like being part of a “team” and doing something for a broader, communal good. They valued study benefits (e.g. free healthcare) and were encouraged by study-supported participant engagement activities and feedback about site-level adherence performance. 2) Despite initial fears about the ring’s diameter and thickness and potential side effects, participants found the ring easy to use and used it consistently. Fears were overcome with ongoing group discussion, counseling and gradual familiarity with ring use through trial progression. 3) The actual or perceived dynamics of participants’ male partner relationship(s) were the most consistently described influence (which ranged from positive, negative and neutral) on participants’ acceptability and use of the ring.
Conclusions: Participants liked the ring and found it easy to use. Initial concerns with the physical attributes of the ring and perceived side effects could be proactively addressed in future activities. Factors beyond the level of the individual woman, like partners and peers, were important for encouraging positive attitudes and adherence behaviors.

WEPEC266
PROJECT GEL: MICROBICIDE SAFETY AND ACCEPTABILITY IN YOUNG MEN
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Background: The purpose of Project Gel was to determine the safety and acceptability of rectal microbicides in young men who have sex with men (MSM) and transgender women (TGW).

Methods: MSM/TGW aged 18-30 years were enrolled at three sites; Pittsburgh, PA; Boston, MA; and San Juan, PR. Stage 1A was a cross-sectional assessment from which a subsample of participants was enrolled in Stage 1B, a 12-week evaluation of a placebo rectal gel. This was followed by the final phase of the study (Stage 2) in which a subsample from Stage 1B was enrolled into a placebo controlled Phase 1 safety and acceptability evaluation of a reduced glyc erin tenofovir (TFV) 1% gel.

Results: 248 participants were enrolled into Stage 1A. Participants’ average age was 23.3 years. The most prevalent sexually transmitted infection (STI) at baseline were Herpes simplex (HSV)-2 (16.1% by serology) and Neisseria gonorrhoea (CT) (23.3 years). The most prevalent sexually transmitted infection (STIs) at baseline were Herpes simplex (HSV)-2 (16.1% by serology) and rectal Neisseria gonorrhoea infections were detected. The majority of adverse events (AEs) were infections (N=56) or gastrointestinal (N=46) and were mild (69.6%) or moderate (28.0%). Of the participants who completed Stage 1B, 24 were enrolled into Stage 2 and randomized (1:1) to receive TFV or placebo gel. All participants completed Stage 2. The majority of AEs were gastrointestinal (N=10) and mild (87.2%) or moderate (10.3%). Acceptability ratings for TFV gel did not differ in any case from ratings for the placebo gel. Most average ratings on gel characteristics, applicator and application process, product use, and liking the product were on the higher end of 10-point scales, indicating high acceptability.

Conclusions: In this study we were able to enroll a sexually active population of young MSM/TGW who were willing to use placebo and antiretroviral rectal microbicides. TFV gel was safe and acceptable and should be further developed as an alternative HIV prevention intervention for this population, given their high rate of incident anogenital infections consisted with condomless sex.

WEPEC267
COMPARING THE ACCEPTABILITY AND CORRECT VAGINAL PLACEMENT OF TWO MICROBICIDE FILMS
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Background: Film formulations of topical microbicides may provide efficient drug delivery while minimizing the disruption of innate immune defenses. Vaginal film technology for the delivery of antiretrovirals is in phase 1 studies. Understanding application challenges and acceptability of different film types is integral to product development. We compared women’s experiences with two films which differed in size and base polymer.

Methods: Study participants received either 1” x 2” polyvinyl alcohol (PVA) based films (n=30 women) or 1” x 2” cellulose (CELL) based films (n=47 women). All participants received standardized insertion instructions and used the films daily for 7 days. Two hours after self-insertion of the final dose, correct film placement (defined as placement inside the hymenal ring) was noted on pelvic exam, but not shared with the participant. Participants completed an acceptability questionnaire. Demographic and behavioral factors as well as answers to acceptability questions were compared using Fischer’s exact test.

Results: Women who used both film types did not differ with respect to demographics or previous vaginal product experience with >80% of participants having used tampons and 40% vaginal cream. Five (17%) of 30 PVA users were noted to have incorrectly placed film at the time of pelvic exam as compared to 2 (4%) of 47 CELL film users. Compared to PVA film users, more CELL film users described insertion as “easy” (51% vs 30%, p<0.01) and were significantly less likely to note any concerns with using the product (17% vs 48%, p<0.005). Problems identified by PVA users centered around difficulties with insertion. Seventy-two percent of CELL film users reported that the product was easier to use with subsequent doses. There was no difference in comfort nor odor associated with film use; women reported that they would be likely to use either film product should it be found effective in preventing HIV acquisition.

Conclusions: Both films were comfortable and acceptable. The larger CELL based film was associated with fewer inser tional challenges than the smaller PVA film. Both size and polymer type may impact correct film placement. Future studies are needed to evaluate which film attributes enhance correct usage.

WEPEC268
SELF-REPORTED RING REMOVALS AND EXPULSIONS OF THE DAPVIRINE VAGINAL RING: QUALITATIVE DATA FROM THE RING STUDY (IPM 027)
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Background: Under-reporting of non-adherence to women-initiated prevention technology is a risk during Phase III microbicide trials. A female initiated, self-administered long-term prevention agent such as the dapvirine vaginal ring could offer women an option to prevent HIV infection and is being tested in The Ring Study. In order to determine efficacy of the ring, participants need to use it as instructed and demonstrate adequate ring use behaviour. We explored participants’ and their male partners’ discussions on accidental expulsions and purposeful ring removals during this study.

Methods: Individual interviews (IDIs) and group discussions (FGDs) were conducted across six research centres in South Africa and one in Uganda. Data were collected 24-36 weeks after research centre activation and again after last product use visits. Participants were purposively selected to include some who reported ring expulsion/removal. Qualitative data was organized into key themes using a theoretical framework (Mensch framework, 2012), and Nvivo used to facilitate the analysis.

Results: Fifty-five female and 72 male IDIs and 9 female FGDs were conducted. Although most felt it was impossible for accidental ring expulsion to occur, 15 participants reported an accidental expulsion. Reported expulsions occurred mainly during sex, some during bathing and some on the toilet. There were more reports (n=25) of purposeful ring removal. The majority of expulsions/removals were reportedly for a short time. Reasons for self-reported purposeful removal included: to clean the ring or during bathing, for male partners (once-off curiosity to see the ring, or test if partners could feel it during sex), because of menses, due to discomfort, or removal when unwell. Some reported that other participants removed their rings - mainly because of fear of a partner finding out about ring use, or because of lack of commitment to The Ring Study.

Conclusions: The number of self-reported ring expulsions and removals were low. More women reported purposeful removals than accidental expulsions. Women were willing to discuss their own ring removal practices. These results are based on self-reported data and will need to be compared with actual ring adherence data. However, discussions provide insight into possible reasons for ring expulsion/removal which can be addressed in future user training.
WEPEC269
THE MANAGEMENT OF HIV DISCORDANT RESULTS AT MADIJBEN CENTRE FOR RESEARCH ON A PHASE III HIV MICROBICIDE CLINICAL TRIAL
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Background: End-point assessments for an HIV prevention trial are crucial in ascertaining the safety and efficacy of study product; therefore the methodology used must be accurate and free of bias. The IPM 027 Study, conducted at the Madibeng Centre for Research (MCR), used a set HIV rapid testing algorithm, consisting of 3 different rapid tests, performed in sequence. A first reactive test followed by two consecutive non-reactive rapid tests indicated that the participant had a discordant HIV test result.

Methods: The HIV rapid testing algorithm used the following tests: 1. Determine HIV 1/2. 2. FDA approved OraQuick Advance HIV1/2. 3. Uni-Gold HIV 1/2. All HIV rapid testing after enrolment was performed on whole blood (drawn into a 4ml EDTA test tube).

- If a participant’s HIV test result was discordant, repeat testing was performed 2 weeks later. A repeat discordant result was escalated to the sponsor for guidance on further testing required to establish a conclusive result. A quantitative HIV RNA PCR result was performed for all discordant cases. An undetectable HIV RNA PCR result indicated the participant was not infected. A detectable HIV RNA PCR result indicated HIV infection.

Results: At MCR, 16 of 482 (3%) participants had one or more discordant HIV rapid test result at some point during their trial participation (64 [0.5%) discordant results out of 11 712 tests performed]. In all these participants no HIV RNA was detectable. Laboratory staff expended much additional time to troubleshoot and confirm the laboratory result.

Conclusions: Since test 1 was highly sensitive it could give a false positive HIV result, therefore discordant HIV test results could be expected with on-site HIV rapid tests. Research centre teams should be prepared and equipped to manage discordant HIV test results.

WEPEC270
EFFECTIVENESS OF TENOFOVIR 1% GEL IN PREVENTING HIV-2: RESULTS FROM FACTS 001
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Background: We assessed the effectiveness of tenofovir (TFV) 1% gel in preventing HIV-2 acquisition in women enrolled in FACTS 001, a phase III, multi-centre, double-blind, randomised, placebo-controlled trial.

Methods: From October 2011- August 2014, 2059 participants were enrolled. Participants who were HIV-2 seronegative at enrolment were included in this analysis. HIV-2 serostatus was determined by HIV-2 type-specific IgG enzyme-linked immunosorbent assay (ELISA™). Negative cases were identified at study exit, and further testing performed to identify the time of first positive result (index value ≥ 0.9). HIV seroconverters were censored at the time of HIV seroconversion and HIV-2 status assessed. Confirmatory testing using HIV-2 Western Blot (WB) was performed. TFV effectiveness was assessed using a log-rank test, stratified by site. We assessed the association between TFV detection in quarterly cervico-vaginal lavage (CVL) and HIV-2 infection in a random sub-cohort (n=221). Results: Of the 2059 enrolled participants, 1183 (57%) were HIV-2 seronegative at enrolment (TFV n=577; placebo n=605). HIV-2 seroconversion at sites ranged from 32%-52%. 58 (5%) participants were censored prematurely because they seroconverted to HIV first; 43 were HSV-2 seronegative at the time of censoring. Overall 150 incident HIV-2 infections were observed during 1649 person-years of follow-up (HIV-2 incidence: 9.1/100 women years). 67 in the TFV group and 83 in the placebo group (incidence rate ratio (IRR), 0.81; 95%CI: 0.58 - 1.13). Similar results were observed for HSV-2 WB confirmed cases. Living with parents [adjusted hazard ratio (AHR) 0.52 95% CI: 0.28-0.99] and site (AHR 0.27 95% CI: 0.08-0.99) were associated with a lower risk of infection. Among participants included in the nested case-cohort (49 cases, 172 controls), a median of 5 CVL samples per participant were analysed. Tenofovir detection in CVL was not associated with reduced risk of HSV-2 acquisition (AHR 1.39 95% CI: 0.77-2.50), even when assessed amongst those that reported sex in the past 7 days (AHR 1.02; 95% CI: 0.45-2.29).

Conclusions: Contrary to other findings, perirectal vaginal application of TFV 1% gel was not effective in this trial in preventing HSV-2 acquisition, irrespective of adherence levels.

TREATMENT AS PREVENTION
WEPEC271
THE EFFECT OF HIV TESTING AND SAME DAY ENROLLMENT INTO CARE ON LOSS TO FOLLOW-UP AMONG HIV PATIENTS: A COHORT STUDY FROM LUKAYA, UGANDA
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Background: One of the ambitious UNAIDS 90-90-90 targets is to test at least 90% of the population and to initiate on antiretroviral therapy (ART) at least 90% of those diagnosed HIV positive. To achieve this, it has been recommended to test and immediately enrol positive testers into care. The effect of instant enrollment on loss to follow-up (LTU) is unknown. We evaluated the effect of same day HIV testing followed by instant enrollment into HIV care on LTU.

Methods: Using routinely collected data for HIV-infected patients (≥14 years), test- and enrolled into HIV care between 1 January 2013 and 30 June 2015 at Lukaya Clinic, Uganda, we compared cumulative incidence of LTU between those enrolled on the day they were tested for HIV to those enrolled later after testing. We used survival methods accounting for the competing risk of death to compare time to LTU and the Fine and Gray hazards regression to assess for factors associated with LTU.

Results: We studied 2,104 patients, the majority 1,233 (58.6%) were female, with median age at enrollment of 30 (Inter Quartile Range [IQR]: 26 to 38) years. Over the study period, 1,227 (58.3%) tested and were enrolled instantly, and 373 (17.7%) were LTU. The cumulative incidence of LTU at 24 months was 18.4% (95% CI; 15.5%-21.7%) in the group that delayed enrollment and 15.8% (95% CI; 13.2%-18.7%) in the group that enrolled instantly (p=0.2). After adjusting for age at enrollment, sex, baseline CD4 at enrollment, baseline WHO stage, and ownership of a telephone, same day testing and instant enrollment was not associated with LTU (adjusted Hazard Ratio (aHR): 0.85, 95% CI: 0.7-1.0), accounting for the competing risk of death.

Conclusions: We found that HIV testing and instant (same day) enrollment was not associated with LTU. This study therefore suggests that instant enrollment into care after a positive HIV test is a viable option and henceforth, a strategy to take on to expedite achievement of the 90-90-90 testing and enrollment targets.

WEPEC277
WHEN WILL COUNTRIES MOVE TO ‘HIV TREATMENT FOR ALL?’ TIME LAG IN WHO TREATMENT GUIDELINES ADOPTION IN SUB-SAHARAN AFRICA
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Background: The World Health Organization (WHO) HIV treatment guidelines have been used by countries to revise their national guidelines. Our study looks at the national policy response to the HIV epidemic in Sub-Saharan Africa (SSA) and quantifies delays in the adoption of the WHO guidelines published in October 2009, June 2013, and September 2015, respectively.
Methods: From the Internet and www.hivpolicywatch.org, we collected 85 published guidelines from 37 countries in SSA (68% global HIV burden), and abstracted date of publication and antiretroviral therapy (ART) eligibility criteria. Four countries recommending ART at CD4 ≤200 cells/mm³ were excluded from further analysis. Number of months taken to adopt the WHO 2009, 2013, and 2015 guidelines were calculated for the remaining 37 countries (97% of 2014 burden in SSA) to determine the average time lag in WHO guidelines adoption.

Results: Even five months after release of WHO 2015 guidelines, none of the countries have adopted the new ‘treatment for all’ recommendation. Of the 37 countries, 21 (71% SSA burden) are recommending ART at WHO 2013 CD4 criteria (≤500 cells/mm³), 12 (26% burden) at WHO 2009 CD4 criteria (≤350 cells/mm³), and four (<1% burden) at WHO 2006 CD4 criteria (≤200 cells/mm³). The average time lag to WHO 2009 guidelines adoption in 33 countries was 24 [3-56] months. The 21 countries that have adopted WHO 2013 guidelines took an average of 9 [0-19] months, a number that will increase as the remaining countries move to CD4 ≤500 cells/mm³. If the trajectories for the adoption of WHO 2009 and 2013 guidelines are followed, it may take many years for the new WHO 2015 guidelines to become national policies.

VACCINES

WEPEC274

URBAN AMERICAN WOMEN’S WILLINGNESS TO PARTICIPATE IN HIV VACCINE TRIALS

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Background: Women, especially women of color, are markedly underrepresented in clinical trials. Nearly 80% of incident HIV infections among American women occurs in Black and Hispanic women, underscoring the importance of understanding the factors that affect their willingness to participate (WTP) in prevention studies. We describe factors associated with women’s WTP in future HIV vaccine trials.

Methods: Between 2008 and 2011, we enrolled HIV-negative women aged ≥18 years from the waiting rooms of seven urban community health clinics in Indianapolis, Indiana, USA. Racial and ethnic minority women were oversampled. Women were asked about their sociodemographic characteristics, sexual behaviors, health beliefs, and WTP in an HIV vaccine trial if offered the chance. All questions were answered via audio computer-assisted self-interview. We evaluated factors associated with WTP using mixed-effects multivariable, adjusted logistic regression.

Results: Among 3,919 women aged 18-65 years (mean=42.7), 67% of whom were women of color, 22% expressed WTP in an HIV vaccine trial if offered the chance. Black women were less likely to express WTP compared to white, non-Hispanic women (OR=0.45; 95% CI=0.25,0.80). Women were more likely to express WTP in a vaccine trial if they had lower average scores on a perceived obstacles scale (OR=0.13; 95% CI=0.08, 0.20) and on a scale measuring fear of injections (OR=0.72; 95% CI=0.57, 0.91). Women with higher average scores on a perceived benefit scale (OR=16.01; 95% CI=9.32, 27.5) and on a perceived norms scale (OR=3.39; 95% CI=2.08, 5.52) were also more likely to express WTP. Women were less likely to express WTP in a trial involving 3 injections compared to single injection (OR=0.42; 95% CI=0.35,0.50). Sexual behaviors, worry about becoming infected with HIV, and other sociodemographic characteristics (e.g. education, income) were not significantly associated with WTP.

Conclusions: In this sample of urban adult women, few expressed WTP in an HIV vaccine trial. The strong association between health beliefs and WTP suggests that interventions that highlight the benefits of participation, create or enhance social norms favoring participation, and reduce perception of obstacles may be successful for recruitment of adult women volunteers, particularly those from minority groups.

WEPEC273

FACTORS ASSOCIATED WITH THE ACCEPTANCE OF IMMEDIATE ANTIRETROVIRAL THERAPY AFTER HIV DIAGNOSIS AMONG HIV-POSITIVE CLIENTS OF THE THAI RED CROSS ANONYMOUS CLINIC

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Background: Thailand started to recommend antiretroviral therapy (ART) immediately after HIV diagnosis, regardless of CD4 count, in 2014. Willingness and readiness of people recently diagnosed with HIV are the key to successful ART initiation and long-term adherence. We studied factors associated with the acceptance of ART among Thai people immediately after their HIV diagnosis.

Methods: Self-administered questionnaire and in-depth interview were used to collect data from clients of the Thai Red Cross Anonymous Clinic which is the largest HIV testing and counseling center in Bangkok. HIV testing clients who received HIV-positive test results were consecutively enrolled during July to December 2015. Demographic data, HIV knowledge, acceptance of immediate ART if offered, incentives and barriers towards ART acceptance were assessed. Binary logistic regression was performed to assess factors related to immediate ART acceptance.

Results: Of 216 HIV-positive participants were enrolled, 62% were men who have sex with men, 16% were heterosexual men, 2% were transgender women, 6% were bisexual men, and 15% were women. Median (IQR) age was 29 (24-36) years, median (IQR) CD4 count was 274 (168-396) cells/mm³, 72% had unprotected sex over the past 6 months, and 7% had HIV-associated symptoms/AIDS-defining illnesses. Median (IQR) HIV knowledge score was 12 out of 15 (11-13.5), 85% were aware of possible adverse health outcomes and 74% knew about resistance development, both as a result of poor ART adherence. 95.4% indicated immediate ART acceptance. Multivariable analysis showed that the awareness that poor ART adherence could cause adverse health outcomes increased immediate ART acceptance (αOR 4.40, 95%CI 1.16-16.71, p=0.03). Awareness of the relationship between poor ART adherence and resistance development was not significantly associated with ART acceptance (αOR 3.90, 95%CI 0.99-15.41, p=0.052).

Conclusions: Acceptance of immediate ART after HIV diagnosis was very high among newly diagnosed HIV-positive clients in Bangkok. Awareness that poor ART adherence could cause adverse clinical consequences influenced ART acceptance. More efforts are needed to make newly diagnosed clients in Thai community aware of the very few side effects and small adherence burden of the currently recommended first-line ART regimens in order to support their decision to start ART.
WEPEC275
STIGMATIZATION, STATUS DISCLOSURE AND SUPPORT AMONG HIV-POSITIVE WOMEN IN THE KUMASI METROPOLIS, GHANA: A MIXED METHOD STUDY
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Background: HIV-related stigma and discrimination have been acknowledged as an impediment to mitigating the HIV epidemic. HIV-positive women are at a higher risk of being stigmatized. This parallel mixed methods study unravels issues of stigmatization and disclosure of status and how this influence adherence to ART among HIV positive women.

Methods: This study was conducted in three ART centers in the Kumasi metropolis of Ghana between January and June 2012. The study population consisted of 206 HIV positive women on ARVs for treatment or prophylaxis, aged 18-49 years and on ART >=3 months and 34 health workers at the ART centers. Quantitative data were collected using semi-structured questionnaires. A logistic regression analysis was done to estimate the influence of socio-demographic characteristics and health worker support on the odds of disclosing HIV status or defaulting ART. The qualitative study involved 3 focus group discussions and 14 in-depth interviews and data were collected using discussion guides and audiorecorder.

Results: The mean (SD) age of the HIV positive women in this study was 35 years (7.2) and most of them were married. About 88% had disclosed their status to either a partner of family member and 24% of those who had not disclosed status had no support. Being single decreased and not knowing whether partner has tested decreased the likelihood to disclose HIV status. HIV-positive women who had disclosed their status were less likely to miss ART appointment (AOR=0.3; 95% CI=0.1-0.9). In the FGDs, stigmatization and fear of divorce, rejection or abandonment were major reasons for not disclosing HIV status.

Conclusions: Stigmatization and fear of rejection impedes status disclose of HIV, which in turn mitigate against support seeking and optimal adherence to ART. Psychosocial support for HIV-positive women, especially the newly diagnosed and the unmarried is advocated.

WEPEC276
THE IMPACT OF DISTANCE TO HIV CARE ON ADHERENCE TO TREATMENT: ADJUSTING FOR POPULATION AND GEOGRAPHICAL HETEROGENEITY USING ADVANCED SPATIAL ANALYSIS
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Background: Several studies have shown a direct relationship between spatial access and health outcomes. However, measuring access is complex and it is influenced by several spatial and non-spatial factors. The objective of this study was to examine the relationship between distance to HIV care and adherence to treatment by controlling for various individual and geographical characteristics.

Methods: Data from the Drug Treatment Program (DTP) of the BC Centre for Excellence in HIV/AIDS was used for this analysis. Driving distance was calculated from patient’s place of residence to their doctors and it was used as the primary exposure. Adherence to treatment (< 95% and ≥95%) was used as main outcome variable. Potential confounding variables, measured at ART initiation included: gender, age, CD4 counts, viral load, history of injection drug use, having an AIDS-defining illness. We also examined the number of viral loads performed in the first 12 months. We fitted both a multivariate logistic regression and geographically weighted logistic regression (GWLR) to address our study objective. We also examined the number of viral loads performed in the first 12 months.

Results: There were 1,528 patients who drove at least 5km to a doctor’s office, for a median distance of 17.85 km (Q1=8.8km - Q3=47.2km). After adjusting for all confounding variables, patients who drove more >17.85 km to receive treatment had a 34% higher (AOR: 1.34; 95% CI=1.06 - 1.70) chance of not adhering to the treatment than their counterparts. GWLR, adjusting for spatial dependency, provided a slightly better model (Fig. 1).

Conclusions: The results of this study clearly show that patients who travelled further to the place of treatment were more likely to not be adherent to treatment. Mapping of the results shows hotspots where spatial access plays an important role in hindering access to care.

WEPEC277
RELIABILITY AND VALIDITY OF THE HOPKINS SYMPTOM CHECKLIST-25 AMONG HIV-POSITIVE PERSONS IN RURAL UGANDA
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Background: Depression is highly comorbid among persons living with HIV (PLWH) with a prevalence range of 23% to 63% across different countries in sub Saharan Africa. However, lack of validated instruments for use in these settings further complicates mental health research in this population. All studies in sub-Saharan Africa have focused exclusively on validating the 15-item depression subscale of the Hopkins Symptom Checklist-25 (HSCL-25). Therefore, the objective of this study was to determine the reliability and validity of both the depression and anxiety subscales of the HSCL-25 among persons living with HIV in rural Uganda.

Methods: We conducted a cross-sectional study nested within an ongoing population-based cohort of all residents living in Nyakabare Parish, Mbbarara District, Uganda. Self-reported HIV status (positive, negative, or unknown) was elicited as part of the study. All persons who self-reported that they were HIV positive were administered the depression and anxiety subscales of the Hopkins Symptom Checklist. We performed factor analysis on the scale items and estimated reliability using Cronbach’s alpha. To assess construct validity we compared the depression and anxiety subscales to related constructs, including happiness (single item scale) and food insecurity (3-item hunger scale). We used multivariable regression to identify socio-demographic and other predictors of depression and anxiety.

Results: A total of 158 adults self-reported that they were HIV positive (prevalence rate of 8.7 percent). These adults had a mean age of 40.5 years, and two-thirds were women. The Pearson correlation between the depression and anxiety subscales was 0.68. Cronbach’s alpha was 0.81 for the depression subscale and 0.87 for the anxiety subscale. Participants scored as having greater happiness as depression and anxiety scores declined (P for trend < 0.001 for both). Persons with moderate to severe hunger had both greater depression symptom severity (P=0.001) and greater anxiety scores (P=0.001).

Conclusions: We observed the full range of scores on both scales. Persons with moderate to severe hunger had both greater depression symptom severity and greater anxiety scores. There are many barriers to accessing mental health care in this population and the use of a shorter validated tool may enhance research in the field.
WEPEC278
PRISONS BASED HIV PREVENTION AND CONTINUUM CARE OF HIV POSITIVE
EX-PRISONERS IN TAJIKISTAN
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Background: Prisons are a high-risk environment for HIV transmission with drug use and needle sharing, tattooing with homemade and unsterile equipment, and high-risk of unsafe sex. In Tajikistan HIV prevention programs are rarely made available in prisons.

By the data of Penitentiary System for 2015 in 18 correctional facilities of Tajikistan 132 (59.4%) out of 222 HIV(100%) positive prisoners are provided by ART, 115 (51.8%) of all PLHIV including those who get ART had released from prisons; only 22 (19.1%) from 115 released HIV positive prisoners continued treatment and registered in civilian AIDS centers; 80.9% of released PLHIV suggested as lost patients.

Description: During 2014-2015, AFEM-Tajikistan together with Penitentiary System introduced “START Plus” program in two pilot colonies. START Plus is a program ensuring prisoners access to HIV education and counseling in prison and continuity of ART during the transition period: 2 months before and 4 months after release. START Plus offers HIV mini-trainings for prisoners and provision of comprehensive package of services for pre and post release prisoners. These services are include discharge planning, health information and referring to doctors,VCT of prisoners with unknown HIV status, adherence support to PLHIV on ART and assistance on restoring the relationships with families after release. Ex-prisoners participating in START Plus supported in adherence to ART, provided by temporary accommodation and meal, restoring IDs and provision of legal support. Also program provides ex-prisoners assistance in employment and social welfare.

Lessons learned: In 2015, 1359 prisoners participated in HIV education mini-trainings and provided by VCT. As result 14 new cases of HIV were detected and 27 earlier detected cases were confirmed. 26(61.9%) out of 42 released prisoners those who need social and medical support were reached by START Plus. 100% (6) of post release prisoners with HIV timely registered in civilian AIDS Centers and continuing ART after release.

Conclusions/Next steps: The START Plus program was recognized by Penitentiary System of Tajikistan as effective and productive approach ensuring health and social provision of prisoners and ex-prisoners. On 25 of August by its Order (No189) Head Administration of Penitentiary System is approved START Plus for introducing in correction facilities.

WEPEC279
FACTORS ASSOCIATED WITH RETENTION IN MULTI-SESSION EVIDENCE-BASED INTERVENTIONS: FINDINGS FROM CDC-FUNDED EVALUATION PROJECTS CONDUCTED AT 19 COMMUNITY-BASED ORGANIZATIONS
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Background: Evidence-based interventions (EBIs) focus HIV prevention efforts among populations at risk for HIV transmission and acquisition. Retention is critical for the successful implementation of multi-session EBIs at community-based organizations (CBOs), and is an important consideration during the design, delivery, and adaptation of EBIs. From 2006-2015, CDC provided supplemental funding to 19 CBOs across the country to monitor outcomes and process indicators for 5 multi-session EBIs. Participants were those who agreed to participate in an evaluation of the EBI; data on intervention session attendance, demographics, and HIV risk behaviors were collected.

Methods: Data from each EBI were analyzed separately to identify factors associated with completing all intervention sessions. Differences between CBOs with respect to participant attributes and retention were also explored. Bivariate analyses were conducted, using Chi-Square, negative binomial models, and regression models depending on the variable type. Log-binomal multivariable models were constructed to assess the adjusted associations between attending all intervention sessions and a number of attributes, including race/ethnicity, age, sex at birth, education, reporting any sex without a condom, and number of sex events without a condom reported.

Results: Completion of all intervention sessions was achieved by 84%, 80%, 79%, 61%, and 60% of participants for 3MV, RESPECT, Healthy Relationships, WILLOW, and SISTA, respectively. Reporting sex without a condom prior to the intervention was associated with completing all intervention sessions for both SISTA (PR=1.19, p<.05) and Healthy Relationships (PR=1.08, p<.01) in a multivariable model. For SISTA, higher educational attainment was also associated with a higher proportion completing all intervention sessions (high school graduate/GED:PR=1.40, p<.0001; some college:PR=1.28, p<.05, referent:less than high school graduate).

Conclusions: The analysis of evaluations’ Clinical data from 2006-2015 offers the unique opportunity to compile retention data from 19 CBOs and examine patterns of retention in real-world settings. Findings suggest that individual factors such as baseline HIV risk behaviors and educational attainment are associated with retention, but the associations may differ between losses to retention and EBIs with more sessions or longer participation periods. This information may inform retention practices, and/or interpretation of retention indicators collected for monitoring purposes.

WEPEC280
AN EXPLORATORY STUDY ON ADHERENCE TO EXCLUSIVE BREASTFEEDING WITH ANTI-RETROVIRAL THERAPY INTERVENTION AMONG HIV-INFECTED MOTHERS IN SOUTH AFRICA AND NIGERIA
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Background: Despite recommendations to promote EBF for HIV-infected mothers in South Africa and Nigeria, many HIV-infected mothers do not EBF for the first six months of an infant’s life. However, formula-feeding or mixed feeding is still common. We aimed to assess breastfeeding practices among HIV-positive mother-infant pairs in South Africa and Nigeria.

Methods: Data for this analysis was drawn from the INFANT Study, a longitudinal cohort study of HIV-infected breastfeeding mothers and their HIV-exposed uninfected infants (April 2013 to March 2015). Mothers were recruited from sites in Khayelitsha, South Africa and Plateau State Specialist Hospital, Nigeria. Descriptive statistics were used to characterize breastfeeding practices and logistic regression using odds ratios (OR) and 95% confidence intervals (CI) was used to identify factors associated with EBF for the first 6 months.

Results: Overall 110 (32.7%) of 336 mothers practiced EBF up to 6 months. Among the sample, 246 (74%) of mother in Nigeria and 90 (18%) in South Africa EBF their infants. Compared to peri-urban South African women, more rural Nigerian women (n=246) EBF (OR: 1.60, 95% CI: 0.84-3.32). The mean age of the mothers was 30 years (SD 5.02) and most of them had access to amenities such as running water, electricity and refrigerators. The majority (86%) of mothers had more than one baby and 62% of them had previously breastfed their last baby. Multigravids 87% comprised of the sample in Nigerian and 82% in South Africa. The mean birth weight for was 2924g (SD 404) with a gestational age mean of 39 weeks (SD 2.9). No standard baseline demographic or clinical characteristics were significantly associated with EBF.

Conclusions: Despite recommendations to promote EBF for HIV-infected mothers and their exposed infants, many HIV-infected mothers do not EBF for the first six months of life. There is an urgent need to understand factors that may influence, develop strategies that improve HIV-infected women’s adherence to EBF.
WEPEC281
CROWDSOURCING CONDOM PROMOTION VIDEOS: A NON-INFERIORITY RANDOMIZED CONTROLLED TRIAL (RCT) IN CHINA


Background: Crowdsourcing, the process of shifting individual tasks to a large group, may help health media interventions to promote condom use. We conducted a non-inferiority RCT to compare condom use between those who viewed a crowdsourced or a social marketing condom promotion video.

Methods: MSM and transgender participants (n=1173, 216 years old, engaged in condomless sex in the last three months) were recruited through a nationwide MSM web portal and randomly assigned into 1 of 2 video interventions. The crowdsourced video was developed by the public through an open contest while the evidence-based social marketing video was designed by experts. Participants were followed up 3 weeks (online survey) after watching the video and the main outcome was any condomless sex in the 3-week period.

Results: Among 1173 eligible participants who entered the study, 907 (77%) individuals from 32 provinces in 269 Chinese cities completed the 3-week follow-up. Socio-demographic, sexual risk behaviors, and non-intervention health media exposure were similar between the 2 groups. Condomless sex was reported for 146/434 (33.6%) in the crowdsourcing group and 153/473 (32.3%) in social marketing group. The crowdsourced video met the pre-specified 10% margin for non-inferiority (estimated difference: 1.3%, 95% confidence interval: -4.8% to 7.4%). The two groups also had similar proportions of condom self-efficacy, HIV testing, and condomless sex with male partners, and with female partners. The crowdsourced intervention cost substantially less than the social marketing intervention, both for total video cost (10,159 USD/person) and cost per person who reported no condomless sex ($8 vs. 84 USD/person).

Conclusions: Our nationwide study demonstrates that crowdsourcing may be an effective tool for designing media to promote condom use. Crowdsourcing contests may help spur more creative intervention tools that promote HIV prevention and control.

WEPEC282
THE WOMEN’S HEALTH INTERVENTION USING SMS FOR PREVENTING PREGNANCY (WHISPHER): DEVELOPMENT OF A MOBILE PHONE-BASED HEALTH PROMOTION INTERVENTION FOR FEMALE SEX WORKERS IN MOMBASA, KENYA


Background: Female sex workers (FSWs) in many HIV-endemic settings are at high risk of unintended pregnancy. HIV prevention programs, while critical for promoting condom use, tend not to address broader sexual and reproductive health (SRH) needs. Due largely to poor knowledge and misconceptions about available options, FSWs in Kenya have high unmet need for dual methods and more effective and longer-acting methods of contraception.

WHISPHER is an mHealth intervention aiming to reduce unintended pregnancy among FSWs. We report the intervention development process and results from workshops with FSWs.

Methods: Intervention development was an iterative process that included: literature review identifying key SRH domains and barriers; mapping these to cognition strategies from behaviour change theory; and involving the target population in message development. Stand-alone messages and multiple-episode ‘role model stories’ about FSWs adopting healthy behaviours were drafted. These were tested with FSWs in six workshops to improve relevance, cultural appropriateness and acceptability. Notes and recordings were translated into English and analysed thematically.

Results: Forty-two women aged 16 to 44 participated. Most had at least one child and a boyfriend or husband, in addition to clients. DespiteSWAIII being widely spoken, English was the preferred language for SMS because of its perceived simplicity. Participants reported that most messages were easy to understand, positive in tone, and addressed topics important to them. They found the role model stories inspiring and realistic, and identified with the characters. The intervention was modified based on participants’ feedback, e.g. using text rather than voice messages, timing messages to different work schedules, and adding specific Swahili terms to improve relevance. A risk that participants may use WHISPHER to seek emergency assistance was identified and an automated response message providing local emergency numbers was added to this. Overall, participants felt they could trust the content and that it made them feel cared for and valued.

Conclusions: A strong basis in theory and evidence resulted in an mHealth intervention that was perceived as engaging and relevant by FSWs. Active participation of FSWs enabled intervention refinements and improvements in acceptability, appropriateness, and the potential to reduce unintended pregnancy and HIV in this high-risk population.
WEPEC284
DIGITAL PARTNER NOTIFICATION SERVICE AT A COMMUNITY-BASED VOLUNTARY COUNSELLING AND TESTING CENTRE FOR MEN WHO HAVE SEX WITH MEN: CHECKPOINTLX, LISBON, PORTUGAL

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Background: Access to partner notification (PN) services should be offered in all sexual transmitted infection (STI) testing sites, especially in those tailored for HIV priority groups. PN approaches and implementation do vary across Europe Region, but recently web-based solutions, such as electronic PN for men who have sex with men (MSM) were endorsed. PN is recommended when participation is both voluntary and anonymous. CheckpointLX is a Portuguese, peer-led, community-based voluntary counselling and testing centre for HIV and other STI screening and linkage to care tailor for MSM. This centre started CheckOUT in June 2015: a web-based, free, voluntary, anonymous, confidential, client-led PN service, designed according to current recommendations.

Methods: CheckOUT is intended to be a tool for anonymous and client-led disclosure of a recent STI diagnosis or reactive test acknowledged at CheckpointLX, therefore only accessible to MSM attending this centre. CheckOUT runs on a reserved area of the centre official website. User logins are given to all MSM with recent STI diagnosis or reactive test. User login expires after 30 days and can only be used once. After CheckOUT service instructions page, users do login and then choose the STI to notify, insert partners phone or email, agree with disclaimers and pre-defined notification wording and submit. Service statistics are stored at website backoffice (number of users and notifications sent). Since June 2015 all people attending CheckpointLX are asked if they come for testing due to CheckOUT. Data and outcomes were collected from 20th June 2015 to 20th of January of 2016.

Results: CheckOUT access was granted to 78 MSM. 17 used it (22% of index cases) therefore only accessible to MSM attending this centre. CheckOUT notification 2, of them had a reactive HIV and syphilis rapid tests (20% reactive cases overall). All 10 attend had been tested for HIV in the previous 12 months. The smartphone application guides outreach and clinical staff through the steps of a multi-faceted HIV cascade model in four project sites. The app tracks individuals across multiple engagements, manages UIC codes and incentive coupon systems, ensures confidentiality and consent, and leverages SMS messaging to reduce a client’s potential loss to follow-up. This tool both guarantees adherence to essential procedures and extracts cleaner data for cascade tracking. After a phased rollout from July 2015 to February 2016, the app registered 1257 individual clients, of which 1039 (83%) were successfully tested for HIV. Among those tested, 96 were confirmed positive (9.2% HIV yield), and 63 of these individuals initiated ARV treatment (66% treatment initiation uptake within a short time period).

Lessons learned: The application’s recruitment coupon data resulted in a direct view of the structure of clients’ social networks and indicated networks with higher numbers of positives for increased outreach focus. The application’s GPS function made possible a geospatial visualization of outreach, providing greater analysis of the strategies undertaken by outreach implementers. Furthermore, among the workers operating the smartphones, clinical staff require greater facilitation of application use than outreach staff, as clinical facilities’ logistics and existing systems present more constraints than outreach. Finally, the important task of integrating the app with government data systems requires sustained engagement.

Conclusions/Next steps: Client flows through diverse outreach, HIV testing, and treatment sites require more complex cascade analyses than originally envisioned but the tool can still be valuable to measure 90-90-90 goals of the HIV cascade. Furthermore, joint HIV cascade data ownership and use by government and NGOs is key to promoting complimentary and mutually respected community-based and government services for key populations.

WEPEC286
ECASCADE: REAL-TIME MONITORING TO MEASURE AND IMPROVE THE HIV CASCADE FOR MSM/TG POPULATIONS IN THAILAND

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Background: Mobile applications that automate data collection and track individuals through the HIV cascade can facilitate real-time monitoring to improve HIV program performance. The USAID LINKAGES Project (managed by FHI 360) constructed a comprehensive, easy-to-use smartphone app to capture data related to client flow at outreach, HIV testing, and ARV treatment points.

Description: The smartphone application guides outreach and clinical staff through the steps of a multi-faceted HIV cascade model in four project sites. The app tracks individuals across multiple engagements, manages UIC codes and incentive coupon systems, ensures confidentiality and consent, and leverages SMS messaging to reduce a client’s potential loss to follow-up. This tool both guarantees adherence to essential procedures and extracts cleaner data for cascade tracking. After a phased rollout from July 2015 to February 2016, the app registered 1257 individual clients, of which 1039 (83%) were successfully tested for HIV. Among those tested, 96 were confirmed positive (9.2% HIV yield), and 63 of these individuals initiated ARV treatment (66% treatment initiation uptake within a short time period).

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Conclusions/Next steps: Client flows through diverse outreach, HIV testing, and treatment sites require more complex cascade analyses than originally envisioned but the tool can still be valuable to measure 90-90-90 goals of the HIV cascade. Furthermore, joint HIV cascade data ownership and use by government and NGOs is key to promoting complimentary and mutually respected community-based and government services for key populations.

WEPEC285
ASSESSING THE EFICACY OF HARNESING MOBILE INTERNET TECHNOLOGY TO PROVIDE LOCALIZED AND LANGUAGE-SPECIFIC MSM HEALTH INFORMATION IN CHALLENGING AFRICAN CONTEXTS

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Background: Numerous barriers exist to providing MSM in East African countries with targeted, accurate and context-specific sexual health information. Legal barriers and broader community-censure hinder dissemination of MSM-focused safer sex materials. Security, logistical and financial barriers limit the geographic reach of what printed local materials are available. Language barriers limit the efficacy of most online materials. MSM-focused HIV information that is easily accessed, context-relevant to East Africa and cost-effective is needed.

Description: Anova Health Institute and the International HIV/AIDS Alliance have designed and implemented the first online information platform for MSM in East Africa in both Swahili and English. Designed as a low bandwidth site for mobile users, offers rapid access to holistic information that enables MSM to look after their health. It includes information on male sexuality, HIV prevention and testing, living with HIV, risks and symptoms of other STIs and the effects of alcohol and other substance use.

Lessons learned: In just over 12 months, over 10,000 pages of information have been viewed. Site access from across the region continues to increase significantly every month. Pages in Swahili, specifically concerning HIV transmission and STIs are of most interest. In over 12 months, over 10,000 pages of information have been viewed. Site access from across the region continues to increase significantly every month. Pages in Swahili, specifically concerning HIV transmission and STIs are of most interest.

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WEPEC287
A PILOT RANDOMIZED CONTROLLED TRIAL OF A MOBILE PHONE DELIVERED COUNSELING INTERVENTION TO REDUCE HIV RISK AMONG MALE SEX WORKERS IN CHENNAI, INDIA
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Background: Men who have sex with men (MSM) are at increased risk for HIV infection in India, particularly those who engage in transactional sex with other men (i.e., male sex workers; MSW). Despite this, HIV prevention efforts for Indian MSW are lacking. Traditional face-to-face interventions may present important challenges that may limit MSWs participation, including time spent and costs associated with transportation. The use of mobile phones among MSW are widespread; employing these technologies as part of an HIV prevention strategy may mitigate these challenges and prove to be effective.

Methods: MSM (N = 100) were equally randomized to: (1) A behavioral intervention integrating HIV risk reduction counseling delivered via mobile phones, and daily, personalized text messages as motivating cues for reducing risky sexual behavior, or (2) A standard of care (SOC) comparison condition. Both groups received HIV counseling and testing at baseline and 6-months, and completed ACASI-based assessments at baseline, 3-, and 6-months. A mixed-effects regression, specifying a Poisson distribution, was estimated to assess the intervention effect on the primary outcome: condomless anal sex (CAS) acts with male clients.

Results: The mean age was 28 (SD=9.1). Half of participants completed secondary education or less, and one-third completed undergraduate college. A reduction in the reported number of CAS acts with male clients in the past month was seen overall. MSW in the intervention condition reported a faster rate of decline in number of CAS acts with male clients in the past month from baseline to 3-month follow up (p= 0.0001) and 6-month follow up (p= 0.00001) compared to the SOC condition. Post hoc contrasts indicated that differences in CAS acts with male clients were seen at both 3- and 6-months.

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Month 3</th>
<th>Month 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>7.67 (1.15)</td>
<td>1.43 (0.29)</td>
<td>0.24 (0.09)</td>
</tr>
<tr>
<td>Enhanced Standard of Care</td>
<td>7.79 (1.17)</td>
<td>4.85 (0.87)</td>
<td>2.79 (0.79)</td>
</tr>
</tbody>
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(p-value, Poisson-Adjusted Mean (SE) Number of Condomless Anal Sex Acts with Male Clients, Past Month by Study Condition at baseline and follow-up assessments)

Conclusions: The use of mobile phone technologies to deliver an HIV prevention intervention that supports harm reduction for MSW in India was feasible and acceptability, but showed preliminary efficacy in reducing sexual risk when compared to a SOC condition. Future testing of this intervention in a fully powered, randomized controlled efficacy trial is warranted.

WEPEC288
POTENTIALS OF USING SOCIAL MEDIA: USE OF INTERNET, MOBILE PHONES AND OTHER E-DEVICES IN REACHING MEN WHO HAVE SEX WITH MEN WITH HIV-PREVENTION MESSAGES IN AN ERA OF RESTRICTIVE LEGISLATION
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Background: In Nigeria there has been a consistent rise in HIV prevalence over the years amongst the Men Who Have Sex with Men (MSM) accounting for about 10% of new Human immunodeficiency virus (HIV) infections. The same sex law operationalized in Nigeria has made it challenging for MSM to participate in HIV prevention programming and less likely to seek for HIV and sexually transmitted infections (STI) services for fear of public stigma and discrimination, hence increased challenges in programming for this population.

Description: In response to the prevailing legal and policy environment in Nigeria, the capture and re-capture methodology was used to estimate MSM key popula-
tion in Lagos state, Nigeria, 2015. The survey was conducted across the 20-LGAs. A total of 2,422 and 1,079 MSM were interviewed at the first count and second count respectively across hot spots.

Lessons learned: This study revealed among other things that MSM are dynamic and highly mobile as evidenced by the difference in the community members enu-
merated in the two counts. This study also found that the most commonly used means of communication by the MSM was social media (2go Chat, Instagram, and MSM parties, SMS, Whatsapp and Twitter) during capture (86.2%) and recapture phase (87.8%). The three most common means of communication among MSM in the two phases respectively were identified as social media (86.2%; 87.8%); phone calls (83%; 81.7%) and with other friends (78.6%; 84.9%).

Conclusions/Next steps: Higher percentages of the MSM are educated and highly mobile. HIV prevention programs for MSM should explore the potential use of social media interventions such as development of APPs that seeks to provide relevant and appropriate messages on condoms, HTS and HIV related concerns. Development of mobile APPs that works to answer frequently asked questions that addresses HIV/AIDS needs to KPS and policies and programs that seeks to include social media as a medium of BCC messaging to intended audience.

WEPEC289
CYBER-EDUCATORS, A NEW BEGINNING ON THE HIV INTERVENTIONS
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Background: Central America, a region with a concentrated HIV epidemic in popula-
tions of men who have sex with men (MSM) and transgender women (TW), faces challenges to reach these populations due to high levels of stigma and discrimina-
tion. The evolution of the internet has led to revolutionary approaches in various public health interventions, including HIV, and has become an indispensable partner in expanding access to HIV-related services in the region.

Description: With USAID financial support, the Pan American Social Marketing Organization (PASMO) has implemented a 5-year program in Central America, ex-
cept Honduras, combining prevention messages for behavior change communica-
tion, products, services, and referrals for HIV prevention. An online intervention targeting MSM was created to expand accessibility to and coverage of HIV-related services among this demographic. “Cyber-educators” reach out to MSM through social media and local chat room websites where they gradually introduce educa-
tional health topics through conversation and eventually refer MSM to HIV testing and counselling.

Lessons learned: The results of the program are increasingly encouraging. Using a unique code to track participants, educators were able to reach a total of 12,198 individuals online in 2015, five times the number reached in the first year of the program (2012) when 2,444 individuals were reached. The online component has consistently grown and now 41% of the total MSM interventions of the program are those implemented online, up from just 20% in 2012. PASMO has also been able to reach a younger and more diverse group of MSM than those reached through face to face interventions.

The program has been so popular that conversations are now transcending HIV to include other health topics, and countries outside the region have also begun to replicate the strategy. The further step is to conduct a study to determine the im-
pact of these interventions.

Conclusions/Next steps: The internet’s influence on the modern world makes in-
cluding online services almost mandatory for programs to succeed. The cyber-ed-
cucators initiative started only as a complementary activity but has quickly come to represent almost half of all MSM activities in the region, and its potential is chang-
ing the way PASMO approaches program implementation in Central America.
WEPE290
EVALUATION OF THE HIV-RELATED SOCIAL SUPPORT SCALE AND ITS CORRELATIONS WITH QUALITY OF LIFE

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Background: Although social support is increasingly recognized to be important in treatment of HIV infection, no validated, disease-targeted instruments are currently available. We sought to develop and validate the first disease-targeted social support scale instrument in Chinese: the HIV-related Social Support Scale (HSSS).

Methods: We established content validity for HSSS and administered the resultant questionnaire to 310 persons living with HIV (PLWHA). We used correlation analysis to test hypotheses regarding HSSS domains and measured construct validity by comparing WHOQOL-HIV scores across several subscales. Descriptive statistics were generated for each of the variables general characteristics. And we also found student t test to compare the different groups.

Results: The HSSS demonstrated a high level of internal consistency, both within each subscale and with the overall higher-order scale; all Cronbach’a’s values exceeded our a priori threshold of ≥ 0.70. The HSSS cores were positively correlated with WHOQOL-HIV total scores (Pearson correlation: 0.39, P < 0.001). We also found that higher educational level, personal income, CD4 cell count, and shorter duration of antiretroviral therapy are significantly associated with a higher level of social support (P < 0.05).

Conclusions: The HSSS is a valid and reliable measure that captures differences in social support and may be useful in clinical practice or in future clinical trials.

WEPE291
HIV/AIDS POLICIES AND THE REDEFINITION OF CITIZENSHIP IN CAMEROON

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Background: Inequalities related to class, gender, sexual orientation, place of residence, etc. increase the risk of HIV infection. The links between the fight against HIV/AIDS and LGBT mobilizations around the world have been extensively documented. However, there are few empirical studies on the effects of new strategies based on performance on LGBT claims in Africa. The New Funding Model of the Global Fund is based on an inclusive “country dialogue” process that includes all stakeholders, but especially key affected populations such as Men who have sex with other men (MSM). This specific citizenship appears to be a temporary and marginal citizenship linked to their biological condition. Homosexuals or men who have sex with other men for example are given a special attention within national strategies and critical statements on human rights issues in homophobic contexts.

Results: The HSSS demonstrated a high level of internal consistency, both within each subscale and with the overall higher-order scale; all Cronbach’a’s values exceeded our a priori threshold of ≥ 0.70. The HSSS cores were positively correlated with WHOQOL-HIV total scores (Pearson correlation: 0.39, P < 0.001). We also found that higher educational level, personal income, CD4 cell count, and shorter duration of antiretroviral therapy are significantly associated with a higher level of social support (P < 0.05).

Conclusions: The HSSS is a valid and reliable measure that captures differences in social support and may be useful in clinical practice or in future clinical trials.

WEPE292
PERCEPTIONS OF HIV REMISSION (“CURE”) TRIALS AND TREATMENT INTENTIONS AMONG POTENTIAL PARTICIPANTS TREATED IN ACUTE HIV INFECTION

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Background: A series of HIV remission trials are being conducted in the Thai Red Cross AIDS Research Centre. Prior to trial invitation, we surveyed eligible, acute HIV individuals on ART in the SEARCH cohort, exploring trial interest, perceived benefits and risks, and factors associated with intentions to participate.

Methods: A paper survey was provided in-clinic. Data collection is ongoing; results from Nov-Dec 2015 are presented. Analysis includes descriptive statistics and backwards elimination regression.

Results: Among 165 participants the majority (97%) are male. 139 (84.2%) were somewhat/very interested in learning about HIV remission trials. On open-ended questioning about key factors in decision making, those somewhat/very interested most often referenced anticipated personal and altruistic benefits; those less interested most often referenced risks of harm and personal benefit. Most (n=148, 89.7%) reported that trial decision-making would be theirs alone. For personal benefit, more than half endorsed “a big chance” (n=60, 36.4%) or “definitely would benefit” (n=45, 27.3%). For risk, 59 (36.0%) chose “no chance” or “small chance of harm” and 96 (58.5%) chose “about a 50/50 chance.” Most (n=118, 72.4%) chose “a big chance” or “definitely” for scientific benefit. Factors associated with intentions to participate in a trial that includes stopping ART (n=96, 58.9% somewhat/very likely) were higher perceptions of scientific benefit (beta= .27, p < .001) and higher personality trait optimism (beta= .26, p < .001). R²= .16 (F (2, 159)= 15.58, p< .01). Factors associated with intent to participate in a trial with an experimental drug and stopping ART (n=110, 68.3% somewhat/very likely) were higher perceptions of scientific benefit (beta= .35, p < .001) and lower perceived impact of HIV (beta= .07, p < .03). R²= .16 (F (2, 157)= 14.37, p < .01).

Conclusions: This cohort indicated high interest and intention to participate. Though they perceive personal benefits and frequently described these factors as important to their decisions, the common factor associated with stated intentions was anticipated scientific benefit. Risks were less described, which may reflect uncertainty about types and magnitude of risks, and optimistic bias. The results suggest that informed consent should target the potential for and uncertainty about risks and how the trial design maximizes scientific benefit.

WEPE293
UNDERSTANDING COERCION IN THE CONTEXT OF SEMI-SUPERVISED HIV SELF-TESTING IN URBAN BLANTYRE, MALAWI

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Background: HIV self-testing (HIVST) offers great potential to increase knowledge of HIV status since it uniquely addresses tensions between convenience and confidentiality. However, the high rate of gender based violence (GBV) in Sub-Saharan Africa generates concerns over the possibility that HIVST may trigger coercive testing at household level. This paper is drawn from a study exploring the social impacts of introducing HIVST in resource-poor settings. This presentation will explore the concept of coercion in the context of HIVST in Malawi and argues that coercion is a culturally relative concept, interpreted differently in different contexts.

Methods: Data on coercion was collected using mixed methods but the focus in this paper is on 60 semi-brief interviewal interviews (15 men, 15 women and 15 couples) collected at two time points with individuals aged 16-49 years who collected the HIVST kit in Blantyre. Data was organised, coded and themes developed using Nvivo 10.

Results: HIVST kit was an empowering tool especially for women by bringing test kits into the household. Coercive testing was considered acceptable in some texts where people were in a stable relationship or had a history of infidelity and had never disclosed HIV status. Coercive testing was often considered as a benefi-
STRENGTHENING SOCIAL AND BEHAVIOURAL DATA COLLECTION AND ANALYSIS

WEPEP294
IMPROVED EXPECTATIONS OF HEALTH AND LONGEVITY AFTER IMPLEMENTATION OF UNIVERSAL TEST-AND-TREAT STRATEGY IN THE SEARCH TRIAL

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Background: Expectations about future health and longevity are important determinants of individuals’ decisions to invest in physical and human capital. Few population-level studies have measured subjective expectations about longevity and examined how they are affected by scale-up of antiretroviral therapy (ART). We assessed these expectations in communities receiving annual HIV testing and universal ART.

Methods: Longitudinal data on expectations were collected in two waves, at baseline and year 1, in 16 intervention communities participating in the SEARCH trial of the test and treat strategy in Kenya and Uganda (NCT01864603). A random sample of households with and without an HIV-infected adult was selected following baseline HIV testing. Expectations about survival to 50, 60, 70, and 80 years of age were measured using a Likert scale. Logistic regression analyses were used to examine the association between reporting being very likely or almost certain to survive to advanced ages and HIV status, including CD4 cell count, and to determine trends in these expectations over time.

Results: Data were obtained from 2,932 adults at baseline and 3,726 adults in wave 1, with 2,748 adults participating in both waves. At baseline, adults reporting favorable expectations about survival to advanced ages were more likely to be male, have completed secondary education, and have higher wealth. HIV-negative adults were more likely to have favorable expectations about survival to 60 years than HIV-positive adults with CD4≥500 (adjusted odds ratio [AOR] 1.76, p< 0.001), as were HIV-positive adults with CD4>500 (AOR 1.20, p< 0.05). Favorable expectations about survival to 60 years were significantly more likely among all adults in year 1 (AOR 1.59, p< 0.001).

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Year 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV+CD4≥500</td>
<td>HIV+, CD4≥500</td>
</tr>
<tr>
<td>50 years, %</td>
<td>50.0</td>
</tr>
<tr>
<td>60 years, %</td>
<td>35.7</td>
</tr>
<tr>
<td>70 years, %</td>
<td>21.6</td>
</tr>
<tr>
<td>80 years, %</td>
<td>15.3</td>
</tr>
</tbody>
</table>

[Percentage of participants reporting they are very likely or almost certain to survive to advanced ages]

Conclusions: Significant variation was found in expectations about survival to advanced ages in study communities, and these expectations improved considerably in a one year period. Future research from the SEARCH trial will help determine whether these changes are driven by the provision of universal ART.

MIXED METHODS, INTEGRATED APPROACHES AND SYNERGIES IN HIV RESEARCH AND INTERVENTION

WEPEP295
MAPPING ‘HABITUS’ AND HIV INFECTION OF DRUG USERS: THE COLLISION OF PHYSICAL SPACES OF EVERYDAY LIFE, RISK NETWORKS AND HEALTH

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Background: Neighborhood and risk network factors have been linked to drug use and HIV prevalence. However, it is not clear how the interplay of risk networks and individuals’ daily activities within their everyday physical and social spaces affect HIV transmission and treatment. Using French sociologist Pierre Bourdieu’s frame of ‘habitus’, we sought to visualize micro neighborhoods mediating spaces and activities and understand their association with HIV. The study population is PWUD/PWID living with HIV in Washington-DC.

Methods: Demographic and egocentric risk network data were obtained from a longitudinal study (n = 152). The geographic location of participant’s and network members’ homes and a set of daily activities (e.g. work, worship, eating and healthcare) were recorded. Outcome measures were HIV treatment (viral load VL, CD4-count) and adherence to ART 30-days prior to baseline. Next, the habits of participants were mapped using bounding polygons that enclosed the locations of everyday activities. The area, density, and direction of the habitus were calculated. Subsequently, network analysis and GIS were used to overlay risk networks and calculate its positionality with respect to the habitus. Finally, Universal Kriging was used to model the spatial pattern of HIV infection through VL.

Results: The PWUD/PWID were predominantly black (98%) male (54%) with a median age of 52. 45% had suboptimal (< 85%) ART-adherence and 35% exhibited detectable VL (>400). Fig1A shows a concentration of high VL in the southeastern and southwestern neighborhoods. For a participant (VL >400) living in these neighborhoods, everyday activities, including healthcare, were located almost 5-miles away from home (Fig1B). The average size of risk networks was 3, comprised primarily of friends (77%) and generally clustered around participants’ home in high VL neighborhoods.

[Figure 1A-B: Mapping ‘habitus’ of drug users with HIV infection]

Conclusions: Our unique approach visualizes the habitus to explain spatial heterogeneity of HIV in micro neighborhoods. This can inform geographic targeting of tailored HIV prevention and care interventions.
HEALTH-RELATED QUALITY OF LIFE (HRQL) AMONGST PEOPLE LIVING WITH HIV IN MATABELELAND SOUTH PROVINCE OF ZIMBABWE

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Background: Health Related Quality of Life (HRQL) is an important measure to evaluate the efficacy of various health related interventions targeted towards a specific population. People with HIV living under the category of hard to reach populations given the sensitivity of HIV/AIDS in marginalized rural communities. Despite the magnitude of support rendered towards ensuring utilization of HIV/AIDS-related healthcare, there is dearth of scholarly evidence to assess changes in health related quality of life. Main objective of this study was to assess HRQL of amongst PLWHIV. This paper is part of a wider research that focused on examining ‘Social Capital & Utilization HIV/AIDS related Healthcare in rural Matabeleland South province in Zimbabwe.’

Methods: A mixed method design was used for the study. A random sample of 403 adults above 18 years was reached using Time Location Sampling procedure. Demographic, health related and socio economic data was collected through one-on-one interviews. Informed consent and ethical clearance was done for the study. HRQL was operationalized using the SF-36 tool consisting of 36 items. Kolmogorov-Smirnov test for normality was done for the central study variables. Reliability tests for the HRQL scales were done and correlations between HRQL and central study variables such as Healthcare utilization were conducted in SPSS.

Results: The study showed that amongst 399 PLWHIV interviewed 65% reported high health related quality of life with average absolute scores above 50. Cronbach’s alpha coefficients for the HRQL scales were above 0.7. 80% of those who reported low HRQL had low Personal Social Capital Scale scores. A chi-square test of independence was performed to examine the relation between Health related quality of life and healthcare utilization. The relation between these variables was significant, $X^2 (2, N = 399) = 14.14$, p<0.05.

Conclusions: Health Related Quality of Life is associated with Personal Social Capital and health care utilization among PLWHIV. These findings are consistent with previous studies which linked social capital to positive health outcomes in Matabeleland South province of Zimbabwe.

QUALITATIVE AND ETHNORGRAPHIC METHODS IN HIV RESEARCH

USING POETIC NARRATIVE INQUIRY IN HIV-RESEARCH WITH, FOR AND BY PAN-AFRICAN COMMUNITIES

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Background: Social science researchers are revolutionizing methodological approaches that are grounded in the ways people living with HIV make meaning of their social worlds. Notably, scholars in continental Africa and the African diaspora have embraced culturally responsive approaches to knowledge production, including performance-based narrative methods reverential to emotive, embodied expression.

Description: The Because She Cares study used poetic narrative inquiry to explore African immigrant women’s experiences of HIV-related employment. Informed by transnational feminist epistemologies and decolonizing thought, this methodology draws upon performance narrative methodologies, and critical narrative inquiry. Using poetic transcription, paralanguage (speech intonation, pitch, and speed, pauses, and body language) was incorporated into narrative transcripts. Select passages from these participant (narrator) were fashioned into data poems that illustrated salient aspects of HIV and work “found” through oral narrative performance such as: tonal shifts, emotive expression, and narrator declarations. Drafted poems were then workshopped with each narrator who reviewed them alongside their original transcript and then contributed to the poems.

Lessons learned: Poetic narrative inquiry is a novel of engaging participants in research. Presenting the poems before dissemination gave participants greater control over the process, and the opportunity to discuss what poems to share, how to share them, and to whom. Narrators used the poems to reflect back on their original narratives which typically generated further reflections of how they make meaning of their work in the HIV response. Concerns about using poetic narrative inquiry include matters of confidentiality and anonymity, the tensions of authenticity, control and ownership, and the potentially painful emotional resonance of poetry.

Conclusions/Next steps: Poetic narrative inquiry offers a social science methodology that is congruent with pan-African narrativization of experience. Poetic representation is a rational and emotional expression of research evidence that can disrupt the empirical dualism of mind-body, art-science, and researcher-participant. Currently, the researcher is working with narrators to develop dissemination activities that incorporate data poems such as text installations, oral performances, and audio/video displays. Using arts-informed methodologies creates an opportunity to critically reflect on knowledge production in HIV research; who produces knowledge, what ways of knowing are valued, and what messages are conveyed through knowledge production and dissemination.

Transition Care of the Youth From Adolescents’ to Adults’ ART Clinic: Lessons From Uganda. A Qualitative Study

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Background: Antiretroviral therapy (ART) and improved care have enhanced survival of HIV-infected infants into adolescents and young adults in many settings including Uganda. Nsambya Home Care (NHC) is a specialized HIV/TB Department of St. Francis Hospital Nsambya, in Kampala, Uganda. In 2011, NHC initiated Youths’ Transition Care Counselling to prepare youths living with HIV and their caregivers for transfer of care to a user fee applying adults’ ART clinic. We aimed to explore challenges, barriers and enabling factors associated with the process.

Methods: We conducted a general qualitative descriptive study to examine enabling factors, barriers and challenges to the transfer of the youth from the adolescents’ clinic to the adults’ ART clinic at NHC. The study covered 12 months (September 2014-August 2015), and the participants included all youths living with HIV aged 17-28 years, attending the adolescents’ clinic over the study period. We used semi-structured face-to-face and telephone interviews to collect data that was complemented by chart reviews. Data was analysed using techniques from thematic and framework analysis.

The Uganda National Council for Science and Technology approved the study, and we obtained informed consents for the interviews.

Results: We studied 132 youths; mean age 20.1 (range 17-28 years), the majority were female (60.6%), on ART (96%), education level above primary (86%). Sixty-five percent accepted a transfer from the adolescents’ to the adults’ clinic, but only 12% eventually transferred to the adults’ clinic. Even though 85% were paying user fees, just 35% were earning incomes.

Enabling factors: Included perceptions of maturity, having financial security and other support structures, and feeling in a safe and secure environment (e.g. same clinic or staffs and peer support networks).

Barriers and Challenges: Comprised of financial insecurity, no support structures, user fees, stigma from adults and unfavourable adults’ clinic appointments. Others were female (60.6%), on ART (96%), education level above primary (86%). Sixty-five percent accepted a transfer from the adolescents’ to the adults’ clinic, but only 12% eventually transferred to the adults’ clinic. Even though 85% were paying user fees, just 35% were earning incomes.

Conclusions/Next steps: Poetic narrative inquiry offers a social science methodology that is congruent with pan-African narrativization of experience. Poetic representation is a rational and emotional expression of research evidence that can disrupt the empirical dualism of mind-body, art-science, and researcher-participant. Currently, the researcher is working with narrators to develop dissemination activities that incorporate data poems such as text installations, oral performances, and audio/video displays. Using arts-informed methodologies creates an opportunity to critically reflect on knowledge production in HIV research; who produces knowledge, what ways of knowing are valued, and what messages are conveyed through knowledge production and dissemination.

Tuesday 19 July

Wednesday 20 July

Poster Exhibition

Thursday 21 July

Friday 22 July

Late Breaker Posters

Author Index
WEPEDE299
A DAY IN THE ANTIRETROVIRAL CLINIC: USING ETHNOGRAPHY TO UNDERSTAND RETENTION IN HIV CARE

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Background: South Africa has achieved remarkable results by initiating more than an estimated 2.5 million people on antiretroviral treatment (ART). Most ART users access their treatment from public healthcare facilities that are often overcrowded and ill-equipped to handle such a large number of clients. The purpose of this study was to understand the everyday challenges that users experience in their attempt to access life-saving treatment and in so doing capture the lived experiences of ART users and the factors influencing their disengagement from care.

Methods: Between January and December 2013 a mixed methods ethnography was conducted in a public health care ART clinic in Durban, South Africa. In-depth interviews (10), focus group discussions (4) and 150 questionnaires were used to collect information. Seven months of participant observation was also done in the ART clinic. The data was triangulated for disagreements and concurrence between the qualitative and quantitative data and thematic analysis allowed for the data to reveal the most important aspects of the results.

Results: Inequality violence and inequality are embedded within the everyday routines and procedures of the ART clinic. Commonly reported barriers included long waiting times, poor staff attitudes, repeated monthly visits, staff shortages, and lack of information. ART users reported feeling disempowered to address these challenges due to the restrictive nature of the programme and the power imbalance that exists between healthcare providers and users. The inability of ART users to negotiate their own treatment regimes to suit their needs resulted in some cases of disengagement from care.

Conclusions: The everyday struggle that people have to endure to access ART was highlighted by this study. Using ethnography allowed us to identify hidden challenges that exist within the health care system that is not captured by other means of investigation in HIV research. Ethnographic findings provide key insights and understanding in health seeking behaviour and specific needs, especially in the area of continued access to HIV care.

WEPEDE300
ASCERTAINING SEXUAL RELATIONSHIP TYPES (ASERT) AMONG YOUNG FEMALES IN TANZANIA

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Background: Despite research on age-disparate sexual relationships in Africa, few studies have explored non-age characteristics of partners, and almost none has clearly articulated young females’ motivations for pursuing different types of sexual partners.

Methods: The Ascertaining Sexual Relationship Types (ASERT) method uses anonymous, group-based reporting to discern the diversity and range of sexual partner types, the criteria used in making partner choices, and partner-specific relationship attributes ranked by order of importance.

Results: Based on a pilot exercise in Tanzania with young out-of-school females grouped by age, the tool revealed 13 distinct sexual partner types among adolescent girls (aged 15-19) and young women (aged 20-24), as well as the motivations for pursuing each type, ranked by order of importance. Nine partner types were common to both age groups; three were distinct to 15-19s and one to 20-24s. The 13 varieties of sexual partners lie along an economic-socioemotional continuum. Among the eight age-disparate types, all were primarily for financial assistance. Two were only for big money or fast money; six were for a mix of cash gifts combined with one or more of the following: parent-like care, transportation access, health care access, or freedom to have other sexual relationships. The five similar-age partner types were mainly for sexual satisfaction, social status, or love and future plans.

Conclusions: Results show that 15-19-year-olds named more sexual partner types (12) than did 20-24-year-olds (10), and that economic and structural barriers were more frequently described as motivations among the 15-19-year age group, possibly due in part to their out-of-school status. The findings emphasize the need for reaching young adolescent girls before such relationships start with age-adapted HIV prevention and social protection interventions that include school retention and economic strengthening. Data from this tool can allow HIV prevention programs to better understand the ranked criteria that adolescent girls and young women use in making sexual partnership choices.
Description: The programme is being implemented in five out of the country’s ten provinces (i.e. Harare and Bulawayo Metropolitan, Manicaland, Mavingo and Matobealand North). The programme works through community based volunteer health advocates who in turn engage health centres and their constituent health centre committees with the latter assisted to monitor how people access health services at the health centres.

Lessons learned: One of the key lessons drawn from the programme through a rapid assessment study conducted is that knowledge and information on the domestic public resources allocated towards the improvement of the health sector and how the resources are being used is not readily available among the Zimbabwean public. This has led to citizens who are disconnected from mainstream participation on health issues. In return, government is failing to close this gap in citizens’ engagement. Yet knowledge on how the national health budget is spent against what was planned provides opportunities for communities to monitor and hold to account the health service provider(s).

Conclusions/Next steps: Citizens’ access to information on the domestic HIV financing is a fundamental human right. It has empowerment effects, and facilitates the effectiveness of the national HIV response framework. It obligates citizens to take an active and participatory role in the demand and provision of quality healthcare services. It is thus the duty of government to ensure that information on domestic healthcare including HIV financing is made readily available, and in reader friendly formats to all citizens.

WEPE0304

ACCEPTABILITY OF THE DAPSVIRINE VAGINAL RING TO FEMALE PARTICIPANTS AND MALE PARTNERS INVOLVED IN THE RING STUDY

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Background: HIV infection in women remains a global health concern. A female initiated, self-administered prevention agent, such as, the dapivirine vaginal ring could offer women a critically needed option to prevent HIV infection and is being tested in The Ring Study (IPM G27). Correct and consistent use as well as acceptability by participants and their male partners is essential for it to be effective. Qualitative socio-cultural behaviour data was collected as part of the Ring Study. This paper explores acceptability of the ring and experiences of participants and their male partners when using the ring.

Methods: Individual in-depth interviews (IDIs) and focus group discussions (FGDs) were conducted across six research centres in South Africa and one in Uganda. Data was collected 24-36 weeks after research centre activation and again after last product use visits. Qualitative data was organized into key themes using the Męnsch theoretical framework (2012) and NVivo to facilitate analysis.

Results: Fifty-five female, 72 male IDIs and 9 female FGDs were conducted. Many factors were identified as influencing ring use and acceptability, including gender and power dynamics, vaginal attitudes and practices, motivations to join the study, partner support and awareness of own HIV risk. Women initially had concerns with ring use, which diminished over time. These concerns were commonly related to male partner’s reaction to ring use, rather than physical attributes of the ring. Most women reported not feeling the ring once in-situ during day to day activities or during sexual intercourse. Very few women felt that it was uncomfortable using the ring during menses. Women preferred the low-maintenance monthly dosing regimen as opposed to an ARV gel. Male partners main concerns were initially related to physical injury to their penis or impact on sexual pleasure, but the majority reported no negative effect on sexual pleasure or physical injury following their partner’s ring use.

Conclusions: The dapivirine vaginal ring was well accepted by both female participants and male partners and initial concerns dissipated with ring use over time. The Ring was seen as a low maintenance HIV prevention method and acceptability is promising for future use of the ring as such a method.

WEPE0303

THE POSITION OF AFRICAN AUTHORS IN ACADEMIC COLLABORATION NETWORKS IN HIV/AIDS IN PUBLIC ADMINISTRATION AND GOVERNANCE AND THE RESILIENCE OF THE NETWORK TO POTENTIAL WITHDRAWAL OF INTERNATIONAL AUTHORS

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Background: Academic co-authorship networks are the visible manifestation of academic collaborations and reveal structural features of intellectual capital and knowledge generation systems. This paper uses social network analysis to map the position of African scholars in the field of HIV/AIDS in public administration and governance. Of particular importance is (1) the extent to which African authors are embedded into the global community of scholars; and (2) the extent to which the networks of relationships between African scholars across Africa is mediated by relationships with authors from developed countries. If the African scholarship networks are bridged or mediated by international authors, then the removal of international authors from the network as international funding priorities shift will have disproportionate effects on the stability of the academic network and the ability of African scholars to maintain their productive collaborations.

Methods: This study exploits bibliographic data from the Thompson Web of Knowledge (formerly ISI) database to geonmap the co-authorship network of international scholarship on African governance and public policy related to HIV/AIDS. Social network methods are applied to analyse patterns of relations between African and international scholars and between African scholars from different African countries.

Results: While African scholars are well positioned in the global collaboration network according to several key network metrics, direct links between African scholars in different African countries are less common than links between Africans and non-Africans. International authors play key bridging roles in the collaboration network, making the inter-African collaboration network vulnerable if these authors dropped out.

Conclusions: The African collaboration network in the field of HIV/AIDS in public administration and governance is thriving, and African authors are active and well positioned in the network. However, inter-African links are frequently mediated by international authors who have bridging functions in the network. The African academic network is therefore sensitive to shifts in funding priorities that may cause these network bridges to reduce their African collaborations. Thus if international donors plan to shift funding priorities they should first aim to increase direct inter-African collaboration to improve the resilience of the thriving African academic research network and thus facilitate African HIV/AIDS research into the future.

WEPE0305

SCIENCE OR MEDIA CAFÉS: WHERE SCIENTISTS MEET THE MEDIA

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Background: The Health Journalists Network in Uganda (HEJNU), an independent organization with 80 members who report on health regularly, brings journalists together to improve the quality, accuracy and visibility of health journalism in Uganda. In 2015, HEJNU and AVAC, a global HIV prevention research advocacy organization, began the Media Science Café programme, with the aim of increasing informed and accurate reporting of HIV prevention research in Uganda.

Methods: The premise of the Cafés is that many minds brought together achieve a more powerful end result than what one would have otherwise reach working in isolation. 20-25 journalists meet monthly with researchers and advocates to explore the science behind research results, new research studies and other timely topics. Journalists also critique each other’s work and work collaboratively. The informal format of the Cafés helps scientists, journalists and advocates meet as equals and makes it easier to freely ask questions and foster discussion.

Results: The Cafés created new avenues to update the media about research milestones and discuss emerging issues and have helped build lasting trust between researchers and journalists. HEJNU analyzes each café looking at what worked and what needs improvement and monitors resulting coverage and any public debates. In surveys we found that speakers liked the relaxed environment that prompts many questions from journalists and creates lively debates. They value the chance to provide more in-depth information about their work. Journalists found the small-num
WEPE0306
SPACES LIKE THESE: CREATING MEANINGFUL OPPORTUNITIES FOR CAPACITY BUILDING IN COMMUNITY BASED-RESEARCH AMONG SOUTH ASIAN WOMEN IN TORONTO, CANADA

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Background: In 2015 the Alliance for South Asian AIDS Prevention (ASAAP) initiated a Community Based-Research (CBR) study to test the effectiveness of culturally relevant stories as an educational tool in HIV and sexual health among South Asian women. A large emphasis of the study was placed on building our collective capacity as South Asian and racialized women to meaningfully lead research. While the primary goal of the study was to determine the impact of stories on HIV knowledge, attitudes and risk perception, peer engagement and capacity building constituted a core component. The study design included structured roles for peers in facilitation, leadership and dissemination.

Methods: The study design included facilitated focus groups with participants who received either stories or traditional fact sheets as an HIV educational tool. Eight (8) female peer leaders representative of the South Asian diaspora in Toronto were trained to facilitate capacity building components of the study and extensively trained in topics such as the ‘Principles of Community-Based Research’, ‘Research Design’, ‘Focus Group Facilitation and Recruitment’, ‘Consent and Confidentiality’ and ‘Referrals and Participant Support’. Peer leaders then facilitated all 11 of the study focus groups and were provided opportunities to vary their roles as lead facilitator, support facilitator or note taker.

Results: Peer leaders gained critical CBR skills, including outreach and recruitment, data collection and collective data analysis. Feedback from peer leaders indicated that connecting with peers to explore topics of sexual health, stigma and HIV/AIDS was empowering. They also identified the creation of a safe space for learning, growth and community building through research as critical. Peer leaders also engaged in developing a knowledge dissemination video and presented on their experiences to ASAAP’s wider membership.

Conclusions: Since structural and systemic impediments often restrict access of racialized women to research spaces, studies that build opportunities to increase access are imperative. In traditional research spaces however, community involvement and collective capacity building is often not the norm and still debated. Sharing models that have achieved demonstrated success in this area can inspire future HIV research with, for and by communities impact by HIV.

WEPE0307
BUILDING STAKEHOLDER ENGAGEMENT CAPACITY: A MIXED METHOD DISTANCE LEARNING APPROACH TO IMPLEMENTING THE GOOD PARTICIPATORY PRACTICE GUIDELINES

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Background: As the Good Participatory Practice Guidelines for biomedical HIV prevention research (GPP) continue to be rolled out across research programs there is a need to build and sustain capacity of engagement staff. The GPP Online Training Course is a web-based, multimodal learning approach dedicated to strengthening understanding and application of GPP among implementers and key stakeholders. The primary audience for this course is research team members who design and/or implement community engagement programs. The course offers two tracks, implementers and non-implementers, with varying levels of intensity.

Description: The course uses a customized, WordPress-based learning management system and combines synchronous and asynchronous strategies such as:

1) Narrated, interactive modules with animations, case studies, practice activities, quiz questions and supplementary GPP resources;
2) Forum discussions and webinars related to module content and learners’ real-world experiences, aimed at creating a GPP community of practice and culture;
3) Written work assignments in which learners critically analyze their research content, identify and prioritize key stakeholders, and develop a strategic stakeholder engagement work or action plan. Learners receive individual feedback from facilitators with GPP expertise. Course modules can be accessed and viewed on a computer, iPad, or offline.

Lessons learned: As of December 2016, three courses have been conducted in nine countries across Africa, Southeast Asia, the U.S and Europe. A total of 54 learners have completed the course with positive learning outcomes. All learners reported gains in knowledge, self-efficacy and commitment to implementing GPP. Aspects of the course described as most valuable were its interactivity, opportunities to share perspectives with other learners through forum discussions, and facilitators’ feedback on work assignments. Some learners indicated that the course required a significant time commitment; most learners in the implementer track spent five to seven hours per week completing requirements.

Conclusions/Next steps: Future GPP online courses are being designed with consideration of needs and interest of other audiences, including CABs, Ethics Committees, and other research fields, such as TB and Ebola. Courses will encompass a blended learning approach, with varying combinations of video webinars, e-learning and peer moderation, aimed at creating the most efficient and innovative educational approach for each audience.

ROLE OF SOCIAL AND BEHAVIOURAL SCIENCE IN BIOMEDICAL RESPONSES

WEPE0308
PERCEIVED BENEFITS OF HIV CURE-RELATED RESEARCH PARTICIPATION IN THE UNITED STATES

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Background: We assessed perceptions of benefits in HIV cure clinical research in the United States. We hypothesized that perceived personal benefits, clinical benefits and social benefits affect willingness to participate in research.

Methods: An extensive, online cross-sectional survey was conducted among 400 American adults (22% females; 77% males; < 1% transgendered) in 2015. The sample was ethnically diverse (65% Caucasian, 17% African-American/Black, 12% Hispanic, 4% mixed and 2% Asian) and 38 U.S. states were represented. We also conducted extensive key informant interviews with 36 people living with HIV, researchers, bioethicists, members of IRBs and regulatory agencies to assess perceptions of benefits.

Results: The psychological benefit of feeling good about contributing to HIV cure research (80%, 95% CI: [75 - 85%]; n = 396) and gaining knowledge about one’s health (78% [73 - 83%]; n = 385) were the potential personal benefits most likely to motivate participation in HIV cure research. Increasing one’s ability to fight HIV (92% [87 - 97%]; n = 381) and reducing one’s HIV reservoir (85% [80 - 90%]; n = 380) were the potential clinical benefits most likely to motivate participation. Helping find a cure for HIV (95% [90 - 100%]; n = 382), helping others with HIV in the future (90% [85 - 95%]; n = 384) and contributing to scientific knowledge (88% [83 - 93%]; n = 380) were the most important perceived social benefits. We delved deeper into these perceived benefits in the key informant interviews. Potential volunteers reported feeling empowered, contributing to stigma reduction, hope, education, bolstering one’s advocacy work, financial compensation and ensuring participation of under-represented populations. Regulators and clinicians-researchers concurred that early HIV cure studies are unlikely to provide any direct clinical benefit, but indicated that participants may experience other types of indirect benefit. Demographic differences in perceived benefits were also evaluated.

Conclusions: Despite no expectation of direct clinical benefit from participating in early Phase I HIV cure clinical studies, the majority of potential volunteers value the societal benefit of furthering science, and believe they will experience psychosocial benefits from their participation. Results highlight the importance of managing expectations and thoroughly exploring potential for therapeutic misconception.
WEPE0309

FACTORS ASSOCIATED WITH SOCIAL CAPITAL AMONG HIV-POSITIVE AND -NEGATIVE WOMEN IN TABORA, TANZANIA

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Background: The interaction of people in groups (social capital)—utilized as an indicator of empowerment—is associated with positive health outcomes and behaviors. There are few studies examining the factors associated with social capital among women attending prevention of mother-to-child HIV transmission (MTCT) and maternal and child health services in rural communities of developing countries.

Methods: The SAFI study in Tabora, Tanzania is a facility-based trial evaluating the effect of SMS appointment reminders and cash transport payments on attendance and facility delivery among pregnant women from 27 antenatal clinics. This 2015 baseline analysis of eligible HIV-positive and HIV-negative pregnant women (n=1,329; age≥18) utilized a multi-variable logistic regression model to describe factors associated with social capital, defined as membership of a community-based group that women have met at least once in the past three months. Variables in the model included education (woman and partner), partner work, knowledge that ARVs reduce sex transmission of HIV, and MTCT, knowledge of partner status, joint decision-making on health care for self, being formerly employed in the past year and ever delivering in a facility.

Results: Overall, 12.6% (172/1,329) women were group members, with comparable HIV prevalence among group and non-group members (26% vs. 27%). Comparable proportions of group and non-group members reported joint decision-making on health care for self, partner work, were married, knew ARVs decreases HIV sexual transmission, knew partner HIV status, ever delivered in a facility. However, greater proportions of group members (and their partners) completed secondary school (p=0.001, and p=0.003 respectively), were formerly employed in the past year (p<0.001), and knew antiretrovirals (ARVs) reduced MTCT (p=0.009). In the multivariate analysis being formally employed in the past year (adjusted odds ratio [AOR] 3.04, 95% confidence interval [CI]: 1.99, 4.65); knowing that ARVs reduced MTCT (AOR 2.65, 95% CI: 1.32, 5.33) and knowing partner HIV status (AOR 1.79; 95% CI: 1.18, 2.72) were significantly associated with social capital.

Conclusions: Irrespective of HIV status, women who earned an income, had enhanced MTCT knowledge, and knew their partners’ status were more likely to be in social groups. Group membership may enable gains in health knowledge and facilitate partner disclosure.

WEPE0310

PERCEIVED RISKS OF PARTICIPATING IN HIV CURE-RELATED RESEARCH THE UNITED STATES

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Background: We investigated perceptions of risks in HIV cure clinical research in the United States. We hypothesized that perceived clinical risks, including study procedures, side effects, and social risks affect willingness to participate. In 2015, we conducted interviews (n=32) and six focus groups (n=42) with MSM in Hanoi. The sample varied by age, income, birthplace, and sexuality. Data were analyzed in NVivo to identify themes relevant to structural barriers to PrEP uptake in Vietnam.

Methods: We conducted interviews (n=32) and six focus groups (n=42) with MSM in Hanoi. The sample varied by age, income, birthplace, and sexuality. Data were transcribed, translated, and analyzed within and across cases to explore themes relevant to structural barriers to PrEP uptake in Vietnam.

Results: Three primary factors emerged that would influence MSM’s ability to engage with PrEP: diversity, stigma, and healthcare access.

Conclusions: Participants described Vietnamese MSM as segregated into Bong Kin (hidden, often homosexually-identified MSM) and Bong Lo (out, transgender, or heterosexual-identified MSM). Bong Kin perceived themselves as barriers to service access and social support; it would also limit MSM’s willingness to carry PrEP and present for regular HIV testing.

Stigma: MSM reported being stigmatized by the government, healthcare system, family and friends, and even other MSM. Bong Lo reported the most stigma. The extremely stigmatized nature of same-sex sexual practices represents barriers to service access and social support; it would also limit MSM’s willingness to carry PrEP and present for regular HIV testing.

Healthcare access: Because of social discrimination and labor market exclusion, many Vietnamese MSM faced economic barriers to healthcare access; MSM-friendly services only existed in large urban settings. This poses further barriers to MSM’s ability to access or even learn about PrEP.

Conclusions: Vietnamese MSM described barriers around diversity, stigma and healthcare access that have implications for their engagement with PrEP, particularly their openness to PrEP-related messaging and services. Vietnam provides an example of the substantial structural-level barriers that must be addressed to achieve the meaningful and effective scale-up of PrEP for MSM worldwide.

WEPE0311

STRUCTURAL BARRIERS TO PRE-EXPOSURE PROPHYLAXIS (PREP) ENGAGEMENT AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN VIETNAM: DIVERSITY, STIGMA, AND HEALTHCARE ACCESS

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Background: Men who have sex with men (MSM) in Vietnam are in urgent need of effective HIV prevention. From 2006-2009, prevalence among MSM in Hanoi rose from 11% to 20%. MSM are the only group in Vietnam whose prevalence is increasing. Pre-exposure prophylaxis (PrEP), presents a potential strategy, but little is known about PrEP-related barriers in Vietnam.

Methods: We conducted interviews (n=32) and six focus groups (n=42) with MSM in Hanoi. The sample varied by age, income, birthplace, and sexuality. Data were transcribed, translated, and analyzed within and across cases to explore themes relevant to structural barriers to PrEP uptake in Vietnam.

Results: Three primary factors emerged that would influence MSM’s ability to engage with PrEP: diversity, stigma, and healthcare access. Diversity: Participants described Vietnamese MSM as segregated into Bong Kin (hidden, often homosexually-identified MSM) and Bong Lo (out, transgender, or heterosexual-identified MSM), and by birthplace, occupation, age, and income. Lower-income, ‘hidden’ MSM from rural areas were reluctant to access services targeted to MSM. This finding demonstrates the need for multiple strategies in order to reach diverse types of MSM. Furthermore, Bong Kin perceived themselves at low risk for HIV infection because they did not identify as gay, which could affect engagement with biomedical prevention.

Stigma: MSM reported being stigmatized by the government, healthcare system, family and friends, and even other MSM; Bong Lo reported the most stigma. The extremely stigmatized nature of same-sex sexual practices represents barriers to service access and social support; it would also limit MSM’s willingness to carry PrEP and present for regular HIV testing.

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Conclusions: Vietnamese MSM described barriers around diversity, stigma and healthcare access that have implications for their engagement with PrEP, particularly their openness to PrEP-related messaging and services. Vietnam provides an example of the substantial structural-level barriers that must be addressed to achieve the meaningful and effective scale-up of PrEP for MSM worldwide.

WEPE0312

EARLY INITIATION OF ART LEADS TO MAINTAINING SOCIO-ECONOMIC STATUS FOR PLHIV AND THEIR HOUSEHOLD: EVIDENCE FROM TWO NEIGHBOURHOODS IN LUSAKA, ZAMBIA

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Background: Discussions surrounding the best time to start ART have been long on going. In the US, ART treatment is advised for everyone who is HIV positive regardless of their CD4 count. In 2013, the WHO published new guidelines for ART arguing that early initiation of ART is beneficial to the physical well-being of PLHIV and additionally may lead to fewer new infections. This paper provides a third dimension and argues that early initiation of ART leads to maintaining socio-economic status for PLHIV and their households.

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Methods: The study used a mixed method model whereby quantitative and qualitative data was collected simultaneously. Research was conducted in two urban areas in Lusaka, namely: Kalingalinga and Roma Ng’ombe (2010-2011). The research focused on the trajectories that PLHIV (18 years and above who had been on ART for a minimum of 12 months) typically go through (pre-HIV: before illness, start ART, and post-ART: current situation).

Results: The study shows the importance of the temporal context of PLHIV and their households and allows for an examination of the recovery process after the initiation of ART. The individual trajectories of PLHIV impact the individual recovery process and success. It was found that for those who start with ART at a late stage of infection their well-being (for example: income levels, job type, and mental- and physical-health) is lower than for those who start with ART in an earlier stage of infection. In addition, not only are the recovery processes more difficult and longer for people who start with ART in a late stage of infection but also their overall socio-economic outcomes remain lower (even years after starting with ART).

Conclusions: This paper adds a dimension to the already existing reasons to start with ART in an early stage of infection. The main conclusion of this research is that early initiation of ART leads to maintaining socio-economic status for PLHIV and their household and additionally leads to overall better socio-economic outcomes on the long term.

WEPE0313 UNDERSTANDING EXPERIENCES AND ATTITUDES RELATED TO SEXUAL AND GENDER-BASED VIOLENCE AMONG MILITARY PERSONNEL SERVING IN SUB-SAHARAN AFRICAN MILITARIES

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Background: While sexual and gender-based violence (SGBV) is recognized as an important factor driving the HIV epidemic in sub-Saharan Africa, attitudes toward and prevalence of SGBV within sub-Saharan African military populations are unknown.

Methods: Data on SGBV were collected from military service members of nine sub-Saharan African militaries through convenience samples. Attitudes related to SGBV and the characteristics and experiences of forced sexual activities were collected from 2009 to 2014. Data were collected on 8815 service members (8165 men and 650 women) aged 18 years or older who voluntarily participated in the Seroprevalence and Behavioral Epidemiology Risk Surveys. Data were collected on demographics, SGBV attitudes, and forced sexual activities. Descriptive and bivariate statistical analyses are reported.

Results: Five percent of men and 9% of women reported ever experiencing a forced sexual activity. Men and women who had experienced a forced sexual activity were significantly more likely to agree with negative gender attitudes about SGBV. The majority of those who reported experiencing a forced sexual activity reported it was committed by someone outside of the military.

Conclusions: This is the first study to examine SGBV in sub-Saharan military populations in non-conflict settings. It provides evidence that SGBV is experienced by both male and female service members at rates not typically found in previous research examining SGBV in other military populations. A better understanding of SGBV in sub-Saharan military service members is necessary to ensure appropriate services and interventions are part of the military infrastructure.

WEPE0315 A QUALITATIVE STUDY OF PEER NETWORK INFLUENCE ON THE PERPETRATION OF INTIMATE PARTNER VIOLENCE AMONG URBAN TANZANIAN MEN

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Background: Intimate partner violence (IPV) has been shown to be strongly associated with HIV infection. Research suggests that peers may influence IPV perpetration among men in sub-Saharan Africa. Understanding how men’s IPV perpetration is shaped by their interactions and conversations with peers may provide valuable insight into future intervention efforts aiming to change network norms to reduce violence.

The purpose of this study is to examine the mechanisms through which peer networks of mostly urban men, locally referred to as “camps”, influence men’s perpetration of IPV.

Methods: Men were recruited from the control arm of an ongoing camp-randomized HIV prevention trial in Dar es Salaam, Tanzania. We collected and analyzed qualitative interviews (n=40) with 20 men who previously reported perpetrating physical IPV within the last year. We wrote narrative summaries for each participant and coded transcripts using both inductive and deductive codes.

Results: Men described societal and peer network-level norms that reinforce experiences that men hold dominant positions within their relationships. The camp-based peer networks were described as close-knit groups through which information spread quickly. Our results suggest that men are influenced by their peer networks in several ways. First, men reported talking openly about women and about conflicts that occur within relationships. Men described reaching a consensus within these discussions and also gave examples of their peers convincing them and other men to take specific actions. Men also described seeking advice formally or informally from leaders within their networks when responding to conflicts. Participants also...
provided rich examples of how new camp members adopted new behaviors and attitudes, particularly with regard to their views towards women, after joining the camp.

**Conclusions:** Men described being influenced by the normative environment of their peer networks. Conversations about women and dealing with conflicts were common, as were examples of peers pressuring others to act in a certain way. Men also noticed changes in the way members viewed women after joining the camps. These results suggest that gender norms are socially influenced and can be changed by working within social networks. This work highlights the importance of interventions that transform gender norms within social networks.

**RELATIONSHIPS, PARTNERSHIPS, CONCURRENcy AND SEXuAL NETWORKS**

**WEPE316**

**IMPLICIT INEQUITIES IN SERODISCORDANT RELATIONSHIPS: THE SOCIAL CONSTRUCTION AND MANAGEMENT OF SERO-IMBALANCE BY HIV-NEGATIVE AND POSITIVE PARTNERS IN CANADA**

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**Background:** As PLHIV are enjoying longer, healthier lives in many high-income settings, long-term intimate sexual relationships with HIV-negative partners are increasingly commonplace. The impact of serodiscordance on relationship quality is thus a key area of study. This qualitative study aimed to shed light on the ways in which serodiscordant partner dynamics enable and constrain intimacy and well-being within HIV serodiscordant relationships.

**Methods:** In 2013, we conducted in-depth interviews with individuals who were recently engaged in a serodiscordant relationship of at least 6 months. HIV-positive participants were recruited through community-based organizations, and referred us to their HIV-negative partners. Our analysis was grounded in participants’ narratives, and sought to extend current understandings of HIV disclosure, ‘HIV talk’, ‘sero-silencing’, and the invisibility of HIV-negativity.

**Results:** Participants included four HIV-positive and two HIV-negative persons, aged 35-59 years, and both partners of two couples. They were experienced in a diversity of relationships, ranging 0.5-15 years’ duration: monogamous (6), same-sex (2), heterosexual (2), and both same-sex and heterosexual (1). Participants reported engaging in unprotected sex more frequently as their relationships matured, despite their awareness of HIV transmission risk. Participants’ narratives suggested that serodiscordance introduced an imbalance into their relationships, or ‘sero-imbalance’, related to sexual, material and emotional needs, access to resources, and sense of control over the relationship, which were perceived differently by each partner. ‘Sero-imbalance’ was dynamic, and experienced with variable intensities throughout the relationship lifecycle, according to how and when HIV was emphasized or silenced in the relationship and to external networks. Consequences included continuous disharmony, temporary moments of distress, and in extreme cases, termination of the relationship. Participants managed ‘sero-imbalance’ in overt and covert ways that reflected a mutual desire to distance themselves from narra- tives of disparity and distinction, in an effort to experience their relationships as balanced and ‘normal’.

**Conclusions:** The theoretical construct of ‘sero-imbalance’ offers a unique lens to examine relationship dynamics between HIV serodiscordant partners. Further work can inform HIV prevention and wellbeing of serodiscordant couples by enabling them to manage perceived relationship imbalances as a means to sustain emotional closeness and embrace their HIV difference.

**WEPE317**

**ACCOUNTING FOR HIGH VULNERABILITY AND LOW RISK FOR HIV AMONG TRANSGENDER MEN: A SEXUAL FIELDS ANALYSIS**

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**Background:** Despite sharing structural and psychosocial vulnerabilities with transgender women and cisgender (non-transgender) men who have sex with men, HIV prevalence and risk appear comparatively low among transgender men who are gay, bisexual, or have sex with men (TMSM). In Ontario, Canada 10% of TMSM had any past-year HIV risk, and none self-reported HIV infection. This paradox suggests the existence of protective meso-level factors, such as socio-sexual networks. Drawing on qualitative interview data, we explore how TMSM navigate sexual fields (structured fields of erotic relations and their corresponding sites of sexual sociality) and the potential impact on HIV risk.

**Methods:** As part of a Canadian community-based participatory research project, 40 TMSM completed demographic questionnaires and participated in individual, semi-structured, qualitative interviews in 2013. Interviews were audio-recorded and transcribed, and coded using a qualitative grounded theory approach.

**Results:** Participants were 18-50 years old and were racially diverse (43% racialized and/or Aboriginal). TMSM engaged with three overarching sexual fields: gay fields were only accessible to those who had medically transitioned sex/gender; queer fields were distinguished by trans-inclusiveness, egalitarian socio-sexual norms, and limited presence of cisgender men; and online classified sites were largely populated by non-gay-identified cisgender men explicitly interested in transgender men. Participants in gay fields described strategies for navigating or circumventing disclosure of transgender status that coincidentally facilitated safer sex, including negotiating sex through apps or websites, or avoiding genital-genital sexual activity.

**Conclusions:** Results help to contextualize recent epidemiologic findings of relatively low levels of HIV infection and sexual risk among transgender men. Overall, TMSM’s sexual opportunities with cisgender gay men were limited, due in part to anticipated and enacted stigma. Further, their adaptive strategies for navigating gay sexualities, and socio-sexual norms, and limited presence of cisgender men; and online classified sites were largely populated by non-gay-identified cisgender men explicitly interested in transgender men. Participants in gay fields described strategies for navigating or circumventing disclosure of transgender status that coincidentally facilitated safer sex, including negotiating sex through apps or websites, or avoiding genital-genital sexual activity.

**WEPE318**

**“IF SHE IS DRUNK, I DON’T WANT HER TO TAKE IT!”: PARTNER INFLUENCE ON ALCOHOL USE AND ART ADHERENCE WITHIN SOUTH AFRICAN COUPLES**

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**Background:** Hazardous alcohol use has been linked to poor ART adherence, worsening of HIV disease, and progression to AIDS and death. Not only does South Africa have one of the largest ART programs globally, but has some of the highest rates of alcohol consumption and heavy episodic drinking. As part of a qualitative study on relationship factors and ART adherence within South African couples, we examined how primary partners may shape each other’s alcohol and ART use.

**Methods:** Twenty-four adult heterosexual couples (48 individuals) with at least one HIV-positive partner were recruited from local healthcare sites using maximum variation sampling. HIV-positive partners were sampled based by gender and length of time on ART. Semi-structured interviews were conducted separately, but simultaneously, with each partner between November 2014 and March 2015. Topics discussed included relationship history and dynamics, experiences with HIV care and treatment including adherence, and HIV-related social support. Data were analyzed using an iterative thematic approach in Dedoose.

**Results:** Twelve couples spontaneously raised concerns related to alcohol and ART. Discussions fell into two main categories: partner beliefs and partner influence. There was a widespread belief among partners that “alcohol and ART don’t mix”,...
which could result in death, disease, and reduced effectiveness of ART. Partner be-
liens shaped the ways partners influenced each other. Forms of partner influence
included encouraging partners to:
(1) abstain from drinking;
(2) limit frequency of drinking;
(3) drink, but take pills another time to avoid drug interactions;
(4) take pills when drinking—no matter what. Encouraging partners to deviate from
their normal dosing schedule was common; the effect of missing pills was believed
to be less harmful than the mixing of alcohol and ART itself.

Conclusions: The significant role of partner beliefs and influence suggests a need
for integrated alcohol and HIV services tailored towards couples. One framework to
consider is a harm reduction approach, particularly when abstinence may be diffi-
cult for ART patients to achieve. Partner beliefs and influence could also have nega-
tive effects on ART adherence; thus it may be necessary to revisit messages about
alcohol and ART in treatment literacy courses with couples.

WEPE0319
ALCOHOL USE AND RELATIONSHIP QUALITY AMONG SOUTH AFRICAN COUPLES:
IMPLICATIONS FOR COUPLES-BASED HIV INTERVENTIONS

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Background: Kenya has a mixed HIV epidemic. Sex workers (SWs) and their clients
contribute 14.1% of new infections (KMoL2008). They are a bridge to the general
population, making their partners particularly vulnerable to HIV infection through
concurrent sexual partners and inconsistent condom use. Clients of SWs are often
workers with at least some disposable income and may also work in settings far
from their families. The vulnerability of SWs and their clients to HIV infection is com-
pounded by stigma and discrimination that keep them from accessing HIV services.

Description: The ILO, in partnership with LUCT Health WEMA Kazini program and
the Bar Hostess Empowerment and Support Programme (BHESP), targeted bartend-
ers, SWs and their clients to provide onsite day and moonlight HIV voluntary testing
and counseling (HTC). Mapping of hotspots included bars, brothels and massage
parks and mobilization achieved through peer-to-peer mechanisms. To avoid ha-
rassment, law enforcers were informed and sensitized. A comprehensive package
was provided, including HIV services, sexual and reproductive health (SRH), screen-
ing for TB, sexually transmitted infections and substance use, PMTCT counseling
and information on gender-based violence. Participants referred to specialized
clinics and follow-up was done to ensure enrollment and retention into care. HTC
was also provided to the partners and children of those who tested positive. The
3-week initiative reached 7,500 sex workers and their clients. Male and female con-
doms and lubricants were distributed and their correct use demonstrated. A total of
1503 women and 1720 men (of whom 125 were MSM) received HTC.

Lessons learned:
• Integrated services provide an incentive for testing, reduce stigma associated
  with HIV-specific programmes and offer services combining HIV and other
  health-related outcomes
• It is essential to include communities surrounding hotspots—including groups
  of bar owners/bartenders—to reach SWs and their clients with HIV and health
  services
• Partnerships with local authorities and law enforcement are crucial to increase
  demand and access to services for key populations
• Onsite voluntary HIV testing enhances HTC uptake and is key to reaching SWs,
  their clients and partners.

Conclusions/Next steps: Scale up onsite integrated HIV/health services to SWs
and their clients to other counties.

WEPE0320
HOW CAN WE INCREASE ACCESS TO HIV SERVICES FOR KEY POPULATIONS THROUGH THE
WORKPLACE?

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• Onsite voluntary HIV testing enhances HTC uptake and is key to reaching SWs,
  their clients and partners.

Conclusions/Next steps: Scale up onsite integrated HIV/health services to SWs
and their clients to other counties.

WEPE0321
MEASURING RELATIONSHIP SATISFACTION AMONG MEN AND WOMEN IN PERI-URBAN
UGANDA

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Background: While Uganda has had well-recognized success in reducing HIV trans-
mision nationally, HIV prevalence in urban areas remains high (8.7% in the 2011
AIDS Information Survey). Effective HIV prevention among married and cohabiting
couples remains a challenge. Increasing couple relationship quality may decrease
HIV risk behaviors such as multiple and concurrent sexual partnerships and increase
protective behaviors such as mutual HIV testing and disclosure. While psychometric
scales have been used extensively to measure relationship functioning in various
contexts around the world, these scales have not been widely used in Africa.

Methods: Men and women aged 20-49 in peri-urban Kampala who were married
or cohabiting were surveyed before and after a couple-focused HIV prevention
intervention which aimed to decrease HIV risk through strengthening couple re-
lationships and increasing sexual exclusivity. The survey explored couple relation-
ship satisfaction and quality using psychometric scales, and also asked open-ended
questions regarding relationship dynamics. Data were collected from 162 couples
(interviewed separately).

Results: In the pre-intervention survey, 4 in 5 respondents reported that they were
cohabiting but not married, with a mean relationship length of 6.6 years. When
asked close-ended questions, men and women reported high relationship satisfac-
tion. For example, men had a mean score of 4.11 (on a 5-point scale with higher scores denoting a more positive relationship) on items on the Dyadic Adjustment Scale, while women had a mean score of 4.04. The great majority of men (91.6%) and women (88.5%) rated their relationship as "happy", "very happy", "extremely happy", or "perfect". However, these data contrast sharply with the responses that men and particularly women gave to open-ended questions about their relationships, in which they communicated significant distress and lack of satisfaction regarding their relationships.

Conclusions: These data demonstrate the challenges of validating psychometric scales for use in an African population, as well as the diverse ways that participants may present themselves depending on the data collection modality (e.g. closed-ended versus open-ended questions). Further work is needed to validate psychometric scales addressing relationship satisfaction for use in Africa, and to understand how men and women choose to represent their relationships in research contexts.

WEPE322
PARTNER HIV DISCLOSURE, PARTNER RELATIONSHIP AND QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS: A LONGITUDINAL STUDY

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Background: Partner HIV disclosure is a critical component in HIV prevention and treatment continuum in terms of improving medication adherence, HIV testing and safe sexual behaviors. However, a great number of empirical studies on partner HIV disclosure are limited by cross-sectional data and not able to explore the causal relationship between partner disclosure and disclosure-related variables. Based on longitudinal data, the current study explores whether and how partner disclosure affect partner relationship and quality of life among people living with HIV/AIDS (PLWH) over time.

Methods: We use data of an on-going longitudinal clinical trial among 791 PLWH in Guangxi, China. The participants were recruited from 16 sites (from both urban and rural areas) and assessed semi-annually since 2013. The follow-up rate is averagely 91% for the first four assessments. At the baseline, the participants were asked whether their HIV serostatus had been known by their spouse. If yes, the participants were categorized into disclosure group. We applied multilevel regression models to assess the effect of partner disclosure on the change of partner relationship quality and quality of life over time. Maximum likelihood estimates were used to fit multilevel models.

Results: Quality of life significantly increased in the sample (β=0.037, p<.0001). Controlling for demographic characteristics, participants in disclosure group experienced a faster rate of increase in quality of life score (β=0.045, p<.50). The correlation of partner relationship of the cohort declined but the change did not reach the statistical significance (β=−0.035, p<.163). Disclosure group showed a slower rate of decline in quality of partner relationship (β=−0.049, p<.0001) controlling for all the other variables.

Conclusions: HIV infection brings a big challenge for partner relationship, especially for the soro-discordant couple. Our findings suggest that partner disclosure may buffer the deterioration of partner relationship in long-term and improve the quality of life among PLWH. Partner disclosure should be integrated into psychological adjustment process of PLWH and their partners.

WEPE323
THE INFLUENCE OF MASCULINITY ON HIVST COMMUNITY INTERVENTION: A QUALITATIVE EVALUATION OF EMPIRICAL EVIDENCE FROM BLANTYRE, MALAWI

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Background: For HIV, population surveys and cohort outcomes show men to have a higher risk of undiagnosed disease than women, and higher risk of death following diagnosis. Here we report findings from an HIV self-testing (HIV ST) study with relevance to other chronic conditions, including TB. HIVST addresses barriers associated with traditional models of providing HIV testing, giving notably high male-participation. We examined the role of masculinity on HIVST decisions and subsequent actions amongst couples in urban Blantyre.

Methods: Sixty seven self-tested participants were interviewed at baseline, 49 at first follow-up (3-5 months) and 50 at second follow-up (12-15 months). Content analysis was used to interpret study findings.

Results: Conception of masculinity dictated men's actions and prescribed specific behavioral attributes, namely having control, knowledge, strength and toughness, and both sexual and economic productivity. The mandate of constant economic provision prevented men living a hand-to-mouth existence from testing with their partners, as they were not at home when HIV ST was offered. Notions of men as all-knowing could promote denial of positive HIV ST results, with men allowed to ques-
tion their authenticity especially when their partner had tested negative. Even when positive HIV ST results were believed, notions of strength and resilience, combined with the relentless demands of their household provider role, dissuaded men from promptly seeking HIV care, as they felt no urgency to act when healthy. Notions of sexual productivity encouraged men to insist unprotected sex irrespective of their own or their partner's HIV status.

Conclusions: The social construction of masculinity, which includes relentless pressure to earn in this impoverished urban setting, restricted the potential benefits of early HIV care and prevention, even within established couples. Community HIV strategies need to explicitly account for the obstacles and barriers linked to masculinity to have full impact.
**ETHICAL ASPECTS AND STANDARDS, INCLUDING WITH RESPECT TO RESEARCH, CLINICAL SERVICES, PUBLIC HEALTH POLICY AND PROGRAMMES, AND PROFESSIONAL CONDUCT**

**WEPE325**

**MINIMIZING UNINTENDED RISKS OF HIV-RELATED PROGRAMMATIC MAPPING AMONG KEY POPULATIONS: INTRODUCING THE MAPPING READINESS ASSESSMENT**

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**Background:** Collecting information from key populations (KPs), including sex workers, homeless men, and transgender IGs, may pose risks to KPs even if the purpose is to improve quality and coverage of health services. Unintended risks can occur through confidentiality breaches, data misuse, or drawing unwanted attention to hidden populations. An emerging global emphasis on programmatically mapping (PM) of the public locations where KPs can be reached for HIV services has raised new ethical concerns. In recognition of these risks, we developed the mapping readiness assessment (MRA) tool to engage communities in a comprehensive assessment of the risks of PM. We describe lessons learned from MRA implementation in South Africa, Haiti, Malawi, Mozambique and Angola.

**Description:** The MRA is a structured guide for obtaining qualitative input from stakeholders including KPs, healthcare providers, public officials, and law enforcement. Topics addressed include understanding the socio-legal environment for KPs, identifying available services and barriers to healthcare for KPs, and exploring the risks of collecting data on KPs. The MRA results in a decision about whether or not to proceed with PM. If consensus is reached to proceed, strategies are developed to minimize risks, contingency plan and protect KP rights and privacy.

**Lessons learned:** In all countries, the MRA revealed different access to services and exposure to discrimination across KP subgroups, particularly by socioeconomic class. MRA implementers learned alternative ways of reaching KPs, such as through social media, in countries where punitive laws and discrimination limit their public visibility. We documented concerns that targeting KPs for HIV testing at public venues could lead to further stigmatization or violence, by reinforcing the association between sex work and HIV, or through perceptions that PM implementers are advocating for same-sex marriage or “recruiting” MSM. Action steps resulting from the MRA included decisions to provide testing to all venue patrons and to alert local leaders and authorities to PM prior to fieldwork.

**Conclusions/Next steps:** MRAs can help governments, program implementers, and civil society engage KPs in the PM process, protect KP rights, and strengthen partnerships to ensure that data collected is ultimately used to improve KP services.

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**WEPE327**

**INTEGRATED AND ASSERTIVE HIV TREATMENT AND CARE WITHIN HOUSING AMONG WOMEN LIVING WITH HIV: BALANCING SUPPORT WITH PRIVACY AND SELF-DETERMINATION**

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**Background:** In the advent of scale-up of HIV care globally, there has been an increasing shift to integrated and assertive HIV care services within housing programs (e.g. outreach, antiretroviral therapy (ART) delivery, HIV provider home visits) for better reach marginalized populations. Given suboptimal access to ART, adherence and treatment outcomes among women living with HIV (WLWH) in Canada, it is imperative to understand how WLWH experience novel HIV care models to best promote ART access and retention, alongside individual respect for rights and privacy.

**Methods:** As part of SHAWNA (Sexual Health and HIV/AIDS: Women’s Longitudinal Needs Assessment), we conducted 53 qualitative in-depth interviews with WLWH in Metro Vancouver between August and December 2015. Interviews were directed by a semi-structured interview guide, which was co-created with WLWH and community organizations. Drawing on concepts of structural violence, this analysis explores WLWH’s experiences with integrated and assertive HIV care models within housing programs.

**Results:** Our findings demonstrate how integrated and assertive HIV care within housing programs was instrumental in facilitating access to HIV care, adherence to ART and access to social services among the most marginalized WLWH. Many women spoke highly of HIV practitioners who provided respite from social isolation and delivered prescriptions to their door. At the same time, in the context of pervasive stigma, some WLWH voiced concerns regarding confidentiality and feared being ‘outed’ as living with HIV through the outreach visits. Other WLWH were uncomfortable with unannounced visits and feared judgement on their living conditions (e.g. use of drugs), and objected to the delivery of unspecified prescriptions.

**Conclusions:** Integrated and assertive HIV care models within housing programs appear to play a critical role in increasing access to ART for many hard-to-reach WLWH. However, many also describe tensions between HIV care delivered in the context of their home and rights to privacy and confidentiality, particularly where complex social and health issues and stigma surround their lives, including gender-based violence, poor mental health, and drug use. As HIV care models continue to be integrated across diverse sectors, WLWH must be consulted on HIV care models that meet their needs and that respect privacy and self-determination.

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**WEPE328**

**ETHICAL BLIND SPOT: INFORMATION GAP REGARDING LEVELS OF COMPLIANCE WITH MATERIAL TRANSFER AGREEMENTS BY EXTERNAL LABORATORIES WHICH USE SAMPLES FROM THE DEVELOPING WORLD FOR HIV RESEARCH**

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**Background:** Biological samples are crucial in HIV biomedical research. These samples come from institutions conducting HIV research from all over the world and increasingly from the developing world as a lot of clinical trials take place there owing to high disease burden. Research institutions which conduct clinical trials in developing countries almost invariably send samples to external laboratories. Transfer of such samples requires material transfer agreements (MTAs) which outline how the samples are managed (e.g. intended use, access to, exact location, duration of retention and fate of the samples after the required analyses or the agreed duration has expired among other things). We investigated how research institutions which conduct clinical trials in Malawi, and thus routinely send biological samples to research laboratories in the developing world, monitor compliance with MTAs by the external research laboratories to which they send their research samples.

**Methods:** Laboratory managers or their delegates of the nine major research institutions in Malawi were interviewed on how they monitor adherence to MTAs by external laboratories to which they send their research samples complying with MTAs. Research institutions should put in place mechanisms to monitor compliance with MTA terms by research labs working on their samples to make sure that every step in the fight against HIV is taken ethically.

**Results:** None (0%) reported that they monitor MTA compliance by research labs where they send their samples. None (0%) reported that they, or their agents, have ever audited any external lab to assess MTA compliance. None (0%) reported that they have ever received any communication regarding fate of their HIV research samples. All (100%) reported that they simply trust that MTAs are being adhered to.

**Conclusions:** Research institutions in Malawi have no knowledge if external research laboratories to which they send their research samples comply with MTAs. Research institutions should put in place mechanisms to monitor compliance with MTA terms by research labs working on their samples to make sure that every step in the fight against HIV is taken ethically.

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**WEPE329**

**SOCIETAL NORMS VERSUS ETHICS: NATIONAL ETHICS COMMITTEE EXPERIENCES IN THE REVIEW OF HIV AND AIDS STUDIES TARGETING SEX WORKERS AND SEXUAL MINORITIES**

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**Background:** World over, the fight against HIV and AIDS includes special populations such as sex workers and sexual minorities. This has correspondingly led to more research being conducted among sex workers and sexual minorities. Handling
of these populations especially in developing countries poses challenges as their practices are regarded as illegal and “unnatural sexual acts” yet they are key drivers of the HIV pandemic. Researching on them thus becomes a challenge to researchers and ethics committees as approving such studies may be tantamount to “legitimising” their activities. Ethics Committees are thus caught in the line of aligning with country norms, social values, morals and the ethical obligation to approve scientific research. The aim of the study was to explore the dilemma and key considerations of Ethics Committees in the review of studies involving sex workers and sexual minority groups.

Methods: 12 studies focusing on sex workers and sexual minorities submitted to MRCG between 2010 and 2015 were conveniently selected and the review criteria and process for them explored. Thematic analysis was done to determine issues discussed, key considerations during review and the outcome.

Results: Regarding the process it was noted that sexual minority studies took on average 16 weeks from initial submission to approval compared to others that usually take 4-6 weeks. Deliberations concerning those studies usually took longer during the meeting. EC members were uneasy on approving sexual minority studies. Members requested the study to commit to (1) increased protection of research participants identity, (2) obtain support from other requisite authorities and (3) developing a dissemination plan that would not affect participant well-being. They were subjected to more scrutiny than other studies. EC members are yet to be interviewed on their experiences of providing oversight over such studies.

Conclusions: Reviewing proposals on sexual minorities and sex workers pose challenges as the ECs operate within a larger society in which they are expected to follow societal values, norms and morals. Their decisions are thus expected to be a reflection of society, science and ethical merits. Ethics Committees are encouraged to remain objective, unbiased and weigh risks and benefits before reaching decisions.

WEPEP329 ETHICAL AND PRACTICAL CONSIDERATIONS IN HIV DRUG TRIAL CLOSURE: PERSPECTIVES OF RESEARCHERS IN UGANDA

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Background: Rapid advances in HIV treatment have been made possible through large numbers of clinical trials, many of which are conducted in resource poor countries. Previous research indicates an evidence gap regarding the meaning of trial closure for HIV positive trial participants in these settings. This paper explores the perspectives of research staff on post-trial care of HIV positive trial participants in Uganda.

Methods: A grounded theory study was conducted using in-depth individual interviews and focus group discussions with 22 research staff from 3 different trials in Uganda between October 2014 and August 2015. Ethical approval was secured from the Ugandan local and national research and ethics committees.

Results: Three main themes emerged:

- Accessing routine HIV services: Although routine HIV care/treatment was freely available to all participants, there were complexities in accessing it. The main challenges included long waiting times, unwelcoming staff attitudes and HIV stigma.

- Accessing treatment for opportunistic infections: Among research participants, lack of access to opportunistic infections was often unable to work due to ill health. They faced particular financial challenges, leading to ongoing stress.

Conclusions: The findings of this paper highlight a critical need for researchers and other stakeholders to remain involved in the care of HIV positive trial participants in Uganda, during their first year of exit from HIV trials.

WEPEP330 EXPERIENCES OF HIV-INFECTED PEOPLE WITHIN THEIR FIRST YEAR OF LEAVING HIV CLINICAL TRIALS IN UGANDA: A GROUNDED THEORY ASSESSMENT

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Background: Rapid advances in HIV treatment have been made possible through large numbers of clinical trials, many of which are conducted in resource poor countries. Previous research indicates an evidence gap regarding the meaning of trial closure for HIV positive trial participants in these settings. This paper reports the experiences of HIV positive post-trial participants in Uganda during their first year of exiting from trials.

Methods: A grounded theory study was conducted with 21 adult HIV post-trial participants (aged 26-59 years) from 3 trials, using in-depth interviews, between October 2014 and August 2015. Participants were recruited through their former research institutions. Ethical approval was secured from the Ugandan local and national research and ethics committees.

Results: Three main themes emerged:

- Maintaining contact: Participants reported keeping in contact with research staff or peers. Although this contact was minimal, it nonetheless proved helpful in providing them with psychological and practical support.

- Financial burden: The majority of trial participants were of low socio-economic status and reported financial problems that affected their ability to access post-trial care. This included lack of funds to pay for transport to clinics, medicines for opportunistic infections and food. Those suffering from opportunistic infections were often unable to work due to ill health. They faced particular financial challenges, leading to ongoing stress.

Conclusions: The findings of this paper highlight a critical need for researchers and other stakeholders to remain involved in the care of HIV positive trial participants in Uganda, during their first year of exit from HIV trials.
WEPE332
INCREASING PARTICIPANTS’ SAFETY IN HIV CLINICAL TRIALS THROUGH ADVERSE EVENTS MONITORING BY RESEARCH ETHICS COMMITTEES: ZIMBABWE EXPERIENCE
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Background: The Zimbabwe National Research Ethics Committee is committed to human research participants’ safety throughout the research continuum. An increase in HIV clinical trials over the past years, has led to an increased number of adverse events being reported from different clinical trial sites in Zimbabwe. We share our experiences as the National Research Ethics Committee on strategies employed to increase participants’ safety in HIV clinical trials through adverse event monitoring.

Description: To increase research participants’ safety in HIV clinical trials, the Zimbabwe National Ethics Committee effected an SOP on adverse events handling, which was communicated to all researchers. Passive and active clinical trial site monitoring has been intensified and participants interviewed for any problems encountered. Participants were educated on importance of keeping diaries and reporting any problems since some adverse events can be subtle. Adverse events causality assessment was integrated in monthly protocol review meetings to determine relatedness to study product. Participants’ diaries were reviewed to uncover unreported adverse events.

Conclusions/Next steps: It is possible to evaluate each and every adverse event reported and participants play a big role in adverse event monitoring thereby making education vital for their safety.

WEPE334
NEVERGREENING: CIVIL SOCIETY ROLE IN CHALLENGING AND PREVENTING UNFAIR PATENTS MONOPOLIES IN BRAZIL
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Background: Since 2003, the Working Group on Intellectual Property (GTPI, acronyme in Portuguese), a group of civil society organizations (CSOs) from Brazil, has been working to mitigate the impact of patent monopolies on access to medicines. Patents allow pharmaceutical companies to set high prices for medicines, threaten access all over the world. It has been well documented the practice by pharmaceutical companies to file patent applications of low quality to extend the monopoly over drugs. This practice is known as evergreening. In Brazil - and other countries -, any interested part may offer arguments to patent examiners showing why a given patent application should not be granted. This mechanism is called pre-grant opposition and might be used to protect public health from unneeded monopolies.

Description: Since 2006, GTPI have challenged patents applications for medicines for HIV and Hepatitis C. GTPI filled in total seven pre-grant oppositions: two for tenofovir (2006,2009); two for lopinavir/ritonavir (2006,2011); one for tenofovir/emtricitabina (2010); one for atazanavir (2015); one for sofosbuvir (2015).

Results: Providers often labelled certain patients as ‘challenging’ or ‘difficult’, such as defaulters and late presenters. However, patients were often seen as blameless, with social and contextual factors, such as poverty and stigma, implicated as barriers to ‘good’ patient behaviour. Patients were also forgiving to providers failing to maintain high standards of care given health system constraints, such as staff and treatment shortages. Success in mutual understanding resulted in both providers and patients making an effort to accommodate each other, and to find solutions that enhanced access to HIV services along the cascade of care. However, failed mutual understanding resulted in helplessness, apathy and poor attitudinal behaviour among both health providers and patients which hindered patients’ progression through the cascade of care.

Conclusions: In most sites, patients and providers often reached a state of mutual understanding, and formed stronger therapeutic alliances to overcome barriers to access. While the label of ‘bad’ patients carry a negative connotation, providers are shifting the blame from individual patients to socio-contextual factors that constrain access and perpetuate poor health-seeking behaviour. Similarly, patients recognize health system constraints faced by providers. Therefore, mutual understanding is a potential mediator of agency in the therapeutic alliance, and may serve to unlock bottlenecks along the cascade of care.

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INTTELIGENT PROPERTY AND TRADE REGIMES REGARDING ACCESS TO HIV TREATMENT AND DIAGNOSTIC MEDICAL DEVICES

WEPE334
NEVERGREENING: CIVIL SOCIETY ROLE IN CHALLENGING AND PREVENTING UNFAIR PATENTS MONOPOLIES IN BRAZIL
P. Villardi, M. Vieira, F. Fonseca
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Presenting author email: pedro@abi aids.org.br

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WEPE335
ONLINE HUMAN RIGHTS TRAINING ON INTELLECTUAL PROPERTY RIGHTS: A CRITICAL STEPPING-STONE FOR INFORMED POLICY DEVELOPMENT, AN AFRICAN CASE STUDY

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Background: The Rights and Rights Alliance for Southern Africa (ARASA) is a partnership of over 90 human rights, TB and HIV organisations working together in Southern and Eastern Africa to promote a Human Rights-based response to HIV and TB.

Description: Access to essential medicines such as generic HIV/AIDS treatment is essential in many countries in Africa. Many African countries still have many challenges to access health care services and amongst them is unavailability of adequate supply of HIV and TB drugs, unavailability of adequate diagnostic machines such as CD4, Viral load and TB testing machines and anti counterfeit laws and policies which are impediments to equal access to quality affordable medicines. These issues need to be addressed to ensure adequate access to quality health care services at a community level.

In 2015 ARASA introduced an online training on intellectual property rights and access to medicine. The training targeted human rights activists, community leaders, policy makers and service providers within country specific intellectual property rights offices. After the training the participants where supposed to develop advocacy campaigns that focused on reviewing current ant counterfeit laws to ensure that they do not become impediments to generic drugs through some provisions within this Acts. In SADC ARASA worked with various organisations and stakeholders to advocate for the review and reform of anti counterfeit laws and policies. In Zambia the anti counterfeit Act is now being reviewed to ensure that it does not classify quality approved generic medicine as a counterfeit.

Lessons learned: Scaling up online training on intellectual property rights can be a catalyst for review and reform of Intellectual property rights and policies that laws that are stumbling block to access to quality affordable medicines.

Conclusions/Next steps: On going advocacy on access to quality, affordable and essential generic medicines should be scaled up to ensure that vulnerable communities such as People living with HIV and AIDS are not denied life saving medicine they require.

WEPE336
CHANGING THE INTELLECTUAL PROPERTY NARRATIVE: PATIENTS BEFORE PATENTS

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Background: The University of KwaZulu-Natal (UKZN) School of Law has launched a new postgraduate (LLM) module on Human Rights Intellectual Property and Access to Medicines following on a successful intensive short course on this topic for five years, delivered to lawyers, activists and health workers. The aim of this module is to develop successive cohorts of students and activists who are able to critically analyse this area of the law from an access to medicines perspective, and thus challenge the dominant IP narrative as the right holders’ prerogatives to reap super profits from the suffering of people.

Description: The Human Rights Intellectual Property and Access to Medicines module provides an opportunity for the intersection of several disciplines, including the IP, Human Rights, Trade, and Regulatory Science. The module is a rights-based offering that aims to place human rights and social justice at the centre of the IP debate. It draws on local and international scholarship and advocacy efforts in order to provide a different narrative to the existing paradigm of IP hegemony.

Some module outcomes include:

• An understanding of core human rights concepts, theory and practice;
• A critical and evaluative approach to analysing Human Rights, Intellectual Property and Access to Medicines in South Africa and elsewhere; and
• The ability to apply this knowledge in the cause of increasing access to medicines.

Lessons learned: The development of a cadre of advocates for access across the African continent. Many beneficiaries of such programmes are active in the process of reforming patent laws in their respective countries. Also, supporting the major challenges to IP control that have come from civil society; and working with governments in areas of policy reform.

Conclusions/Next steps: The module will have impact both in the manner in which law teachers understand their craft, and how law students are trained to practice law for the benefit of society as a whole.

WEPE337
BARRIERS TO ACCESS AFFORDABLE ARVs IN MIDDLE-INCOME COUNTRIES (MICs)

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Background: Of the roughly 35 million people living with HIV who do not have access to antiretrovirals (ARVs), two-thirds live in middle income countries (MICs) - home to nearly 73% of the world’s impoverished people. By 2020, it is estimated that 70% of people living with HIV will reside in MICs. These statistics signify that there is a serious treatment gap facing MICs now and even more so in the future. This situation is compounded by two key factors: 

(i) drug companies routinely charge higher prices in MICs, given that these are “emerging markets”, and exclude them from “access programs” or voluntary licenses;
(ii) there is little international pressure addressing this gap as compared to intervention in low-income countries. Failure to address this widening gap sets back past work to address access to ARVs and there is a need for an urgent response by all actors.

Description: This presentation will discuss what civil society-led patent interventions are doing in addressing affordability and access issues for HIV and Hepatitis C drugs in MICs. Special focus will be given to law and policy reform, legal patent challenges, and strengthening patent examination. Evidence-based analysis will be presented for the first time to showcase pricing and patenting trends in a subset of countries, providing recommendations for how to address the treatment gap going forward.

Lessons learned: 1) MIC status is fluctuating, as country classifications change, which potentially has an adverse impact on affordability of medicines.
2) Legal and advocacy strategies by civil society are serving as leverage for country governments and emerging as an important negotiating tool with pharmaceutical companies.
3) Information asymmetry is a key barrier in MICs. Challenges persist to obtaining pricing and patent data around key HIV and Hepatitis C drugs in MICs.

Conclusions/Next steps: 1) Rising medicine costs and decreasing international support require MICs to enact health-friendly patent policies that promote affordable medicines.
2) Investment is critical in PLHIV networks and their advocates to dialogue with government patent offices, patent offices and health ministries and address information gaps.

Academic research institutions and other actors need to leverage their expertise to support governments to address information asymmetry.

HUMAN RIGHTS OF PEOPLE LIVING WITH HIV AND KEY POPULATIONS

WEPE338
GLOBAL FUND AFRICA REGIONAL GRANT ON HIV - REMOVING LEGAL BARRIERS: COUNTRY COORDINATING MECHANISMS (CCMs) ENDORSEMENT FROM PROGRAMME COUNTRIES

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Background: In 2013, UNDP and four regional NGOs in Africa who are recognised for their work on HIV and human rights (ARASA, Enda Sante, KLIN and SALC), developed a partnership to successfully apply for a regional grant through the Global Fund New Funding Mechanism. The award was made at the end of 2015 and is the first Global Fund Africa Regional Grant which addresses human rights of key populations (KPs).

Description: In order for the award to be made, the consortium sought endorsement from the CCMs of all 10 project countries (Botswana, Cote D’Ivoire, Kenya, Malawi, Nigeria, Senegal, Seychelles, Tanzania, Uganda, Zambia). A project Steering Committee developed country summaries, which were sent to the respective CCMs. Follow-up was handled on a case by case basis. For example, some CCMs requested clarification by email, whereas others requested for an in person presentation. In each case, open communication was maintained so that each CCM was able to send multiple rounds of questions that were answered as swiftly and comprehensively as possible. As a result, all 10 programme country CCMs endorsed the project Concept Note, and will continue to remain involved in the project through communication with the Africa Steering Committee (ASC).
Lessons learned: More face to face engagement with CCMs is required when deal-
ing with human rights issues due to possible sensitivities. Multiple forms of commu-
nication need to be prepared and offered (presentations, fact sheets, summaries) to satisfactorily answer questions that CCM members may have. KP involvement in presentations to CCMs is critical, but it is important that the project Steering Committee actively supports KPs in this role. In some cases capacity development in human rights is necessary for CCM members to make a fully informed endorsement.

Conclusions/Next steps: Endorsement by the CCMs has proven to be essential in development and implementation of this regional grant. The method of seeking endorsement can be replicated by others who are also undergoing the same process.

### WEPED339

**A VIDEO ABOUT A BRAZILIAN HIV-POSITIVE POSTER**

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**Background:** In the last years, Brazilian HIV/Aids related campaigns were focused only on prevention and testing. Campaigns focused on stigma and prejudice against people living with HIV/AIDS (PLHA) are needed.

**Description:** After discussions with a publicity agency, a poster entitled “I am an HIV+ Poster” was produced in April 2015, featuring a drop of blood from a PLHA. The title “reveals” the semiotic status of the poster; in low case, it compares itself to a PLHA. It follows asserting that it cannot transmit HIV, such as a PLHA in efficacious treatment or using condoms does not, and that it is possible to live with it like with any other poster. The production was donated by publicity, video and sound agencies. Some posters were distributed in São Paulo City bus stops for a week. Some of the blood donors stayed near the poster, talked with the readers, and then revealed that the blood in the poster was their own. Reactions were all positive! A 3 minutes video was produced with testimonies by 9 PLHA, and public reactions in streets. The video has versions for deaf people and subtitled in English, French, Mandarin, and Spanish.

**Lessons learned:** The parallel between the poster and PLHA sensitized people about stigma and discrimination, thus allowing a reflection, both rational and emotional, on their concepts. Visualizations in our youtube channel, were more than 300,000, and exceeded 350,000 in that of the publicity agency; one Brazilian user downloaded the video in her facebook page and surpassed a million visualizations. In Argentina, visualizations exceeded 4 millions. Several people and organizations from Mexico, Philippines, South Africa etc, asked to replicate the campaign. Among other prizes, the poster won a Golden award at “El Ojo De Iberoamerica” Festival, Bronze Lion award at Cannes Festival. Many health care services, educational institutions, prisons, NGOs asked for copies of the original poster.

**Conclusions/Next steps:** The repercussion in social media showed the poster and video revived the discussion on stigma and prejudice related to HIV, both in Brazil and the world, stressing the globality of the subject. An Exposition on this poster and video is planned for 2016.

### WEPED340

**ADJUSTING TO THE EVIDENCE BASE FOR RIGHTS-CENTERED HIV PROGRAMMING: COMPREHENSIVE COUNTRY-LEVEL INVESTIGATIONS SUPPORTED BY THE GLOBAL FUND**

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**Background:** Human rights-based approaches to HIV programming are essential to ensure effectiveness and sustainability of programs. The Global Fund to Fight AIDS, TB and Malaria is committed to rights-based and gender-sensitive programming as reflected in the rights sub-objectives in its 2017-2021 strategy. It encourages including human rights interventions in proposals for programs addressing the three diseases. But inclusion of human rights interventions in proposals and final grant agreements has been infrequent, and the few interventions included have rarely been brought to adequate scale.

**Description:** The Global Fund is undertaking a major five-year effort to evaluate and add to the evidence base on the importance of human rights programming for HIV (and TB and malaria). The centerpiece of this effort, the methods for which were developed in consultation with external experts and key affected populations, are prospective qualitative and quantitative evaluations of the costs and impacts of human rights interventions relating to HIV programs in 15-20 focus countries. The interventions this research focuses on are the seven identified by UNAIDS and the Global Fund as essential for effective HIV programs, namely reduction of stigma and discrimination; access to legal services; “know your rights” information programs; reform of laws and policies that impede access to services; elimination of gender discrimination and disparities; human rights training of health workers; and human rights training of police. Mathematical modelling is being undertaken in some loca-
tions on the health impact of these interventions.

**Lessons learned:** Research/evaluation teams are best identified through an open bidding process. Experts consulted emphasized the need for participation of affected populations in these investigations and for using this research as a teaching opportunity for community-based organizations engaged in monitoring and advocacy for rights-based programs.

**Conclusions/Next steps:** The evidence generated from this effort is more compre-
hensive and more reality-based than some of the evidence previously available on rights-centered approaches to HIV. The results of the country-level investigations will be disseminated in user-friendly ways to policy-makers and program decision-makers and will also inform routine program evaluation approaches in the Global Fund.

### WEPED341

**CURBING SAFETY AND SECURITY RISKS OF WORKING WITH MSM THROUGH ENGAGEMENT OF POLICE AND TRADITIONAL LEADERS**

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**Background:** Lesbian, bisexual transgender and intersex (LGBTI) Kenyans experi-
enced widespread verbal and physical assault from members of the community on a daily basis. These have a significant impact on the mental health and well-being of LGBTI people and also hamper continuing HIV prevention, treatment and care efforts. Historically, LGBTI community and organizations have also faced numerous challenges from law enforcement.

On April 19th 2014, ten police officers raided MAAYGO office, confiscated office materials and arrested, harassed and beat the organization’s director and finance officer, as well as one of its members, for “illegally promoting homosexuality” and detained all three in police cells.

**Description:** Men Against AIDS Youth Group Organization (MAAYGO) works in the front lines in the HIV response led the establishment of security network to dialogue and review the incident and what it meant in HIV programming. MAAYGO initiated sensitization forum with local chiefs and police officers to understand and familiarize them with MAAYGO work and sexual orientation and gender identity (SOGI) and how to deal with cases in the community.

**Lessons learned:** As a result of the sensitization forum, the police commander, local chiefs and police officers are now supporting MAAYGO interventions. These stake-
holders now understand how HIV programming for MSM contributes to the national HIV response. MAAYGO continues to proactively and constructively engage with the police and have been allocated sessions to conduct sensitization and training to police officers and local chiefs. MAAYGO also participates at community local chiefs “barazas” to sensitize other community members on LGBTI issues in order to increase tolerance and acceptance.

There are now a number of police officers who understands the plight of LGBTI Kenyans and can articulate the issues they face.

**Conclusions/Next steps:** Developing a security plan, scanning the environment before implementing activities, are important when building partnership with the community. Continuous sensitization of law enforcers, local chiefs and communities on LGBTI issues and contributes to a more positive and enabling environment for MSM-focused programming.
related laws, regulations; and policies and practices, in order to establish their ref-

levant to, and impact on the national response to HIV and AIDS. While the 1999
Constitution of the Federal Republic of Nigeria (as amended), offers general pro-
tection against discrimination and protects the rights of all Nigerians, there are
concerns that the legal and regulatory environment for HIV response could be
improved especially given the recent enactment of the Same Sex Marriage Prohibition
Act, 2014. It is important, given the disproportionately higher HIV prevalence
rates among Key Populations

Description: The assessment was government led, anchored by NACA and steered
by a Technical Working Group comprising Key Populations (FSWs, MSM, PWID), UN
Agencies, PLHIV, Academia, Ministries, Department and Agencies of government. It
is believed that given the hostile legal environment especially for key populations,
it is important to come up with an assessment involving critical stakeholders in the
HIV/AIDS response including the Key Populations to provide evidence base for ad-
vocacy for legal and policy reforms. The assessment which has been completed and validated by stakeholders reveals the existence of a wide range of laws and policies with dire implications for HIV/
AIDS.

Lessons learned: With the enactment of the Same Sex Marriage Prohibition Act,
2014, hence the hostile legal environment, one of the key lessons learned from the
assessment is that advocacy for legal and policy reforms should be informed by evidence based assessment aligned with global and regional documents. It is also important to involve key populations and key government stakeholders in the design and implementation of legal assessment. It gives hope that some of the pu-
nitive criminalizing legislations against most at risk populations will be reversed.

Conclusions/Next steps: The LEA will inform the development of the National Plan
of Action and Accountability Framework for all key stakeholders

WEPED344
ACCESS TO ART FOR FOREIGN PRISONERS IN BOTSWANA: STRATEGY AND LITIGATION IN TAPELA AND OTHERS V THE ATTORNEY GENERAL AND OTHERS

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Background: In August 2015 the Botswana Court of Appeal delivered a judgment,
upholding a previous High Court order, in which the Botswana government was
compelled to provide antiretroviral treatment (ART) to foreign prisoners. The judg-
ment marks a milestone in a long battle by local and regional civil society to change a
government policy in which foreign prisoners were discriminated against in the
denial of ART.

Description: Spanning a period of three years, the strategy coordinated by the
Botswana Network on Ethics, Law and HIV/AIDS (BONELA) and the Southern Africa
Litigation Centre (SALC) included legal proceedings at both High Court and Court of
Appeal, interim contempt-of-court proceedings, extensive advocacy, and engage-
ment with government officials. The call to dedicate public resources to non-citizen
prisoners was unpopular in public discourse and encountered stern government
resistance. In addition, Botswana’s constitutional framework explicitly endorses ex-
ceptions to non-discrimination provisions in the case of non-citizens and in public
expenditure. The achievement of policy change was therefore a significant accom-
plishment following coordinated efforts of various parties.

Lessions learned: The implementation of the strategy required clearly-framed, har-
monised and sustained advocacy goals and activities on local, national, regional and
international levels. The legal strategy was carefully framed in acknowledgment of the
jurisprudential context, ensuring outcomes useful to long-term strategic ends in
advancing access to healthcare in prisons. However significant hurdles were faced in
accessing the prison system in order to monitor compliance with the High Court and
Court of appeal orders. Concerns particular to prisoners as litigants need to be ac-
commodated when including litigation in strategies to advance access to treatment.

Conclusions/Next steps: SALC and BONELA intend to use the success in the judg-
ment to improve civil society’s footprint in HIV-services in Botswana’s prisons. Efforts
will continue to expand the enforcement of the judgment and to use the enforcement
process to create opportunities for dialogue are required to ensure sustainable

WEPED345
VIOLATIONS OF SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS OF WOMEN LIVING WITH HIV IN CLINICAL AND COMMUNITY SETTINGS IN UGANDA

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Background: Women living with HIV experience more stigma and rights violations
in health care settings than HIV-negative women. There is need to further unpack the
complex issues of stigma, gender-based prejudices, discrimination, and human
rights violations in the context of clinical and community health settings.

Methods: The study was conducted in 2014 in the 8 regions of Uganda. It involved
both qualitative (a desk review, focus group discussions, in-depth interviews and
selected case studies) and quantitative (a field based inquiry) methods. Over 700
women living with HIV were interviewed. Other respondents included service pro-
viders, opinion and district leaders, CSOs and men. The approach was participatory:
35 young women living with HIV trained as research assistants.

Results: Of 72 women who had undergone tubal ligation as a family planning meth-
od, 30 women had been forced or coerced. Their education level was relatively
low - 54% had only primary school level - and they are mainly low income earners (34%). Most (95%) sterilizations occurred during child birth, when the woman got a
c-section. Coerced and forced sterilization was characterized with misinformation,
and no signed consent was sought. Other violations, especially in community set-
tings, included forced abortions, gender-based violence, abandonment by spouses,
and women forced to give birth beyond number of children desired, and stigma and
discrimination.

Conclusions: Cultural and social factors remain barriers to access SRHR services.
Unequal power relations between women and health workers, spouse or family
members lead to women’s low bargaining power, limited education, and low eco-
nomic status. Women lack information about their rights. There is need to sensitize health workers on women’s SRHR, empower women liv-
ing with HIV to increase their ability to negotiate and resist SRHR violations, and;
provide legal redress and justice to women who have undergone SRHR violations,
especially forced/coerced sterilization.

WEPED346
IMPLICATIONS OF SEXUAL REPRODUCTIVE HEALTH RIGHTS VIOLATIONS ON CARE, SUPPORT AND PREVENTION OF HIV: EXPERIENCES OF WLHIV ON FORCED AND COERCED STERILIZATION IN KENYA

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Background: When sexual reproductive health rights are respected and upheld
those who need to access reproductive health care feel safe and dignified and are
likely to seek these services whenever they need them. The contrary would lead to
apathy and seeking alternative ways of addressing reproductive health needs which
may expose those seeking care to unprofessional care leading to mortality among
other health challenges.

Methods: This study was conducted between September and December 2011 in
Nairobi and Kakamega. Respondents were identified through snowball within
support groups of WLHIV. Data was collected through in-depth face to face
interviews, the respondents identified places they felt comfortable to hold the
interviews; this was done to protect confidentiality. Quantitative data was analyzed
through graphical displays and tabulations while qualitative data was analyzed
according to emerging themes which provided in-depth information to generate
close to verbatim accounts of the respondent’s experience.

Results: The study found out that; non-
consensual sterilization was happening in both public and private hospitals, health care workers and family members were the main perpetrators, the affected women suffered psychological stress and were disinherited of their matrimonial property, stigma and discrimination was the main
driver of forced sterilization which led to many women shying away from disclosing


WEPEO347
THE ROLE OF NGOs IN CONFRONTING ANTI-GAY LEGISLATION: A PANACEA TO COMBATTING THE SPREAD OF HIV/AIDS AMONG MSM IN NIGERIA

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Background: In January 2014, the ex-president of Nigeria signed into law a legislative Act that formally criminalizes same sex oriented citizens and other Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) persons living in Nigeria for their human person, their sexual orientation and gender identity. Apart from the Criminal and Penal Code which impose 14 years jail term on homosexuals or bisexuals, the Recent Same Sex Marriage Prohibition Act criminalizes civil partnerships, marriages of same sex persons, organizations that provides developmental intervention programs, professionals who support LGBTI people such as nurse, doctors and lawyers, association of HIV positive gay men by the virtue of sexual orientation and people who identify with LGBTI persons by association (which could include family members) among others. This drove many gay men underground and hinders the (CSOs) from providing medical support and care to LGBTI and those living with HIV/AIDS.

Methods: In 2015, the International Centre for Advocacy on Rights to Health-ICARH engaged a legal practitioner on a full time job to further her critical intervention on Human Rights in order to promote and defend the fundamental Human Rights of a sexual minority population in the Federal Capital Territory Abuja, Nigeria. Also, in October 2015, ICARH and other NGOs conducted ‘Legal Environmental Assessment’ on the impact of Nigerian Legal System in the fight against HIV/AIDS.

Results: The Human Rights lawyer responds quickly in cases of arrest/detention of HIV/AIDS activists; generates evidence for advocacy, and generates data for improving rights-based programmes; responds to individual emergen-
cies; generates evidence for advocacy, and generates data for improving rights-based programmes.

WEPEO348
ESTABLISHING A COMMUNITY-OWNED SYSTEM TO MONITOR AND RESPONSE TO HIV-RELATED HUMAN RIGHTS CHALLENGES: LESSONS LEARNT SO FAR

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Background: Right, Evidence and Action (REAct) is an information technology (IT) based human rights monitoring and response system used and owned by community-based organisations. Since mid-2014, REAct has been set up in Myanmar, Lebanon, Uganda, Senegal, South Africa and Zimbabwe by organisations of PLHIV, LGBTI people, migrants, women from key populations and sex workers. Through REAct, organisations document human rights-related barriers, including gender violence, to accessing HIV and health services. REAct produces information to inform provision of adequate rights-based programmes; responds to individual emergencies; generates evidence for advocacy, and generates data for improving rights-based programming.

In 2015, there was formative evaluation on REAct with two strands: an overview of its contribution to the existing body of evidence about human rights reporting and response systems; and a specific field evaluation in Uganda.

Description: The overall evaluation used a mixed method approach, including a desk review of information provided by participating organisations and in the public domain and appreciative inquiry/semi-structured interviews with 25 persons, including global key population networks, REAct implementers and strategic partners.
WE PED350  
HUMAN RIGHTS AND HIV: ZERO DISCRIMINATION YOUTH TASK FORCE IN THE RESPONSE TO THE AIDS EPIDEMIC IN BRAZIL

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Background: In Brazil, HIV infections rose 11% from 2005-2013 in the population as a whole, with a noted high vulnerability of young people. From 2005-2014, notified AIDS cases between 15-19 years old individuals more than tripled (from 2.1 to 6.7 cases per 100,000 inhabitants). UNAIDS and the Ministry of Health identified gaps in the response, including that of young people also, which were less and less involved in issues related to HIV, with very few young activists. Information to promote adherence was also lacking.  

Description: The Zero Discrimination Youth Task Force brings together young activists from different human rights areas (women’s movements, race and ethnic, indigenous, land reform, etc.) as well as HIV-positive youngsters, in order to fight discrimination, empower young people from key populations and those most vulnerable in society. The approach is cross-cutting through five transdisciplinary themes: educationcommunication; social mobilization; advocacy; ethics and culture of peace and conflict mediation. Mobilization is innovative, through social media and crowdfunding of ideas, with primary focus on virtual environments and communities. The group is active on virtual mobilization on social and human rights issues and also very prominent in welcoming and supporting young people who have recently discovered their HIV positive status. The task force also facilitates, mediates and helps in the development of social intervention strategies.  

Lessons learned: The application of nonviolent communication principles and culture of peace in cross-cutting issues was beneficial. The gathering of leaders of human rights movements into AIDS-related issues has been very important for mutual learning. Through the deconstruction of misconceptions, it was provided a space for dialogue that created that allowed the approach and perception of the other as a partner.  

Conclusions/Next steps: Since the establishment of the task force a significant increase for noted in the participation of networks and youth movements in response to the AIDS epidemic in Brazil. Similarly, there was an increase of visibility in the youth agenda and their demands. Through ongoing training, it is expected the expansion and strengthening of this network.

WE PED351  
SECURING LAND RIGHTS FOR WIDOWS LIVING WITH AND AFFECTED BY HIV USING CUSTOMARY JUSTICE STRUCTURES

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Background: In Homabay and Kisumu counties of Kenya, many widows and orphans become vulnerable to HIV when their husbands and fathers die, due to disinheritance by their families and communities, which leaves them destitute. These counties are among the 47 with the highest HIV prevalence rate, with Homabay at 25.7% and Kisumu at 19.3%, as against the national prevalence of 6.04%. Many are evicted from their rural homes and flee to urban areas where they find themselves vulnerable to physical and sexual abuse, increasing their vulnerability to HIV. Often they resort to high-risk behavior, such as polygamy or involuntary sex work in order to earn enough money to survive. For women and children living with HIV it becomes very difficult to access consistent treatment.  

Description: KELIN trained over 50 elders and 100 widows on HIV and the rights based approach. The widows who had been evicted were linked to the trained elders who mediated over their cases. The widows were then resettled on their land. Each case took an average of three months to be resolved.  

Lessons learned: The use of customary justice systems has not only ensured access to justice to over 300 widows living with HIV, but has helped secure land and property rights, enabling them to become economically independent and productive members of the community. Women’s access and control over land is a basic necessity for a decent livelihood, especially in rural agricultural areas and critical to ensuring women living with HIV or widowed by HIV can protect themselves from infection, cope with illness, and support their families. By facilitating the widows to access their lands it ensure that they enjoy their access to health.  

Conclusions/Next steps: KELIN has developed a tool for those who want to replicate similar programs. The tool outlines a simple guideline for implementation in any community where harmful cultural practices have a negative impact on HIV exist. KELIN has documented all the cases that have been settled by the widows and is now working with the Judiciary to formalise the process of access to justice by way of mediation as envisioned by Article 159(2) of the Constitution of Kenya.

WE PED352  
CRIMINALIZATION OF SEXUAL MINORITIES RIGHTS FOSTERING STIGMA AND DISCRIMINATION: CASE OF BURUNDI

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Background: On April 22, 2009, Burundi amended its Criminal Code to criminalize sexual relations between consenting adults of the same sex for the first time in its history. The State of Burundi has legal obligations to protect the rights of all its citizens arising from the Universal Declaration of Human Rights, and various treaties, pacts and international conventions that the State of Burundi has ratified, as well as under the Constitution of the State of Burundi. Nonetheless, sexual minorities in Burundi continue to be the victims of human rights violations and face increasing marginalization and discrimination.  

Description: The research was carried out to produce first ever data on the extent of discrimination by le Mouvement pour les Libertes Individuelles - MOU whose work is around documentation an research on human rights abuse and violations based on real or perceived sexual orientation and gender identity. The authors analyzed Elis’s archives and verified the accusations for the cases presented on MOU employees, as well as other reports produced by the organization since 2010, where over 17 cases were documented.  

Lessons learned: The research recognized remarkable progress has been made securing the right to health for sexual minorities since 2007, especially with regard to HIV/Aids prevention programs. However, the institutionalization of homophobia materialized by official intolerance and promotion of homophobic attitudes, and detention and threats of detention incite some health providers to not giving comprehensive services to MSM & Transgender while contributing that they go on background and prefer to disclose their sexual practices to health providers. Also, sexual minorities identifying organizations were found denied registration impacting their ability to organize and mobilize various constituencies.  

Conclusions/Next steps: Laws and punitive provisions against sexual minorities continue to hamper effective responses to HIV/Aids as well as for them to attain the highest level of health services as most of them fear of being viewed as criminals. Thus, initiatives on documenting and addressing issues human rights, sexual orientation and gender identity needs to be encouraged in other to adopt a human rights based approach to HIV/Aids.

WE PED353  
CHALLENGING ANTI-PROSTITUTION LAWS WITH HELP OF CEDAW

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Background: Female sex workers are among the populations most vulnerable to HIV in Eastern Europe and Central Asia (EECA) — vulnerability which is directly linked to stigma and discrimination that is perpetuated by anti-prostitution criminal and administrative laws. Yet there is neither public pressure to repeal these laws locally, nor calls for change from international allies. From 2013-2015, sex worker activists from Shekh-Aim Network, Kyrgyzstan and Silver Rose Association, Russia, with support from the Canadian HIV/AIDS Legal Network and International Women’s Rights Action Watch Asia Pacific (IWRAW) sought to build international pressure for sex work law reform in the region.  

Description: Activists submitted periodic country reports to the Committee on the Elimination of Discrimination against Women (CEDAW Committee) in order to secure recommendations regarding anti-prostitution laws in Kyrgyzstan and Russia. Sex workers attended pre-sessions and review sessions of, and presented reports to, the CEDAW Committee. In 2015, the CEDAW Committee issued a strong recommendation to repeal anti-prostitution administrative laws because they are discriminatory and increase the vulnerability of sex workers to HIV.  

Lessons learned: When it comes to sex work, the CEDAW Committee is considered a fairly conservative UN human rights body, which at best promotes the so-called Swedish model, where sex workers are tolerated but clients are punished. Before 2015, the CEDAW Committee recommended the decriminalization of sex work on several occasions, but never challenged administrative prohibitions against sex work. The 2015 recommendation was a clear step forward by a UN human rights
body in recognizing the human rights of sex workers. The main driver of success was the active participation of sex worker activists in CEDAW sessions. CEDAW Committee members had the opportunity to hear first-hand experience concerning the ways in which anti-prostitution laws exacerbate stigma and discrimination against sex workers and increase their vulnerability to HIV. 

Conclusions/Next steps: The 2015 CEDAW recommendation will be used to fight anti-prostitution laws in the ECA. Sex worker activists plan to approach senior government officials to urge them to implement the recommendation. Activists will also maintain a dialogue with the CEDAW Committee to amplify the voices of the communities most affected by HIV.

WEPED354
EXPLORING EQUITY IN COCHRANE HIV SYSTEMATIC REVIEWS USING THE PROGRESS PLUS FRAMEWORK: A BIBLIOMETRIC ANALYSIS
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Background: Inequities undermining the efforts to curb the HIV epidemic are increasingly being documented such as, gender based differences in prevention and treatment, the role of religion in sexual behavior and adherence to care, access to social capital in prevention and engagement with care and level of education in HIV testing. These issues raised above would suggest that elements of inequity should be integral parts of HIV research, practice and policy. The objective of this research was to describe and summarize equity reporting in HIV systematic reviews and explore the extent to which equity issues are addressed in HIV reviews using the PROGRESS Plus framework; a tool to measure variation in health across socially stratifying forces.

Methods: We conducted a bibliometric analysis of all the systematic reviews published by the Cochrane HIV/AIDS group as of March 2014. The reviews were grouped into four categories: behavioral, social or policy interventions (n=16); biomedical prevention (n=16); health services and care (n = 9); and therapeutics, prognostics and diagnostics (n = 62) giving a total of 103 reviews. PROGRESS Plus items were identified as present or absent in the reviews and recorded by pairs of seven reviews using a standardized data extraction form. PROGRESS Plus items included place of residence (P), race or ethnicity (R), occupation (O), gender (G), religion (R), education (E), socio-economic-status (S), social capital (C), age (Plus item) and sexual orientation (Plus item).

Results: The analysis included 103 reviews published as of March 2014, with a median of 5 studies per review (min 0, max 44). Reporting of PROGRESS-Plus factors was as follows: Place of residence (low, middle and high income) (55.3%), Place of Residence (urban or rural) (24.3%), Race or Ethnicity (20.4%), Occupation (10.7%); Gender (65.0%), Religion (1.9%), Education (7.8%), Socioeconomic Position (10.7%), Social Networks and Capital (1.0%), Age (1.9%) and Sexual Orientation (3.8%).

Conclusions: Gaps in the reporting of relevant equity indicators were identified in the research suggesting HIV research is not consistently conducted through an equity lens. There is a need to incorporate more socially stratifying factors into both primary and secondary studies.

WEPED356
ANTI-GAY LAW, MSM AND HIV: HUMAN RIGHTS INFLUENCES AND HIV/OTHER STIs AMONG MEN WHO HAVE SEX WITH MEN IN NIGERIA (MSM)
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Background: Results from the recent Integrated Behavioural and Biological surveillance Survey (IBBSS) 2014 indicates that HIV prevalence among Men who have sex with Men is skyrocketing: From 13.5% (in 2007) to 17.2% (in 2010) and 22.9 (2014). Despite the tremendous donor money spent on MSM-HIV programming, the passing of the anti-gay law in Nigeria is having a huge impact on efforts already made to mitigate HIV new infections among this sub-population in Nigeria.

Objective: To measure the impact of the anti-gay law HIV programming in Nigeria

Methods: Between October to December 2015, a well-structured questionnaire were administered to the clients at the Strengthening HIV Prevention Services (SHIPS) Nigeria HIV Drop-in Centre (DIC) for HCT/STI syndromic management services to MSM in Benue and Nasarawa States. The data were evaluated in a cross-sectional analysis. Linear regression was used to determine the correlates of the anti-gay law.

Results: A total of 436 MSM were reached. This figure indicates 65% of enrollment at the facilities before the signing of the antigay law in Nigeria. Mean age was 23 years +/- 5SD. HIV prevalence was 6.8%, 19% reported Anal warts cases, 11% for herpes Simple virus (HSV) and 6% for Gonorrhea. 67% visited the drop-in-Centre (DIC) two or more weeks after having the sign and symptoms of the STI, because they are concerned about the attitude of the Healthcare workers if they inform them of their same-sex practice. 39% reported engaging in self-medication before visiting the DIC. 13% were asked to pay double or more at a Health care facility (HCF) because of their sexual orientation and fear of being handed over to the law enforcement agencies. 42% have female sex partners in other to cover up suspicions they could be MSM by the general populations. More than half of the clients are aware of an MSM with an STI but not willing to visit the HCF due to the anti-gay law.

Conclusions: Criminalization of consensual sex among MSM is limiting their uptake of continuum of care and services at the various health facilities thus, increasing their vulnerabilities in increased risky behaviours.
CHILDREN’S RIGHTS AND HIV

WEPED357
FIGHTING FOR CHILD RIGHTS THROUGH COMMUNICATION FOR DEVELOPMENT (C4D), A SUCCESS STORY FROM MALAWI, 2014-2015

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Background: More need to be done to protect children from HIV as incidences of sexual abuses keep increasing. This threatens the attainment of zero HIV and AIDS by 2030. In response to this, Chikwawa Diocese started a C4D approach to give children voice so that their views, concerns, and interests are heard and given legitimacy. C4D is an approach that empowers children as subjects, story-tellers and advocates of their own rights through child-created narratives, photos and videos. It facilitates dialogue between children and their parents, duty bearers and policy makers.

Description: In 2013, a total of 198 (100F, 98M) children aging from 9 to 17 years were mobilized to form groups of 20 each. In 2014, the children and 20 (10M,10F) community members were trained in C4D elements which are child rights, Community Journalism, Video shooting and Photography skills, Storytelling and Children Indaba. The children and community journalist produce videos and write community news articles that trigger discussion against bad practices affecting children in their communities. The groups are linked to police, local courts, health facilities, education offices and other social providers for care and support.

Lessons learned: C4D exposed various child abuses happening in the communities. In 2014, 7 cases of sexual abuse were reported as compared to 2 in 2015, 21 girls were withdrawn from marriages. 37 children (14M, 23F) were brought back to school, 14 (5M, 9F) children were brought out from child labour. 5 cases of corporal punishment were discussed in 3 primary schools. Community journalism skills have been used among children and their communities to address issues of child abuse.

Conclusions/Next steps: C4D can expose hidden child abuses that can be dealt with in order to meet the zero HIV and AIDS by 2030. Empowered children can help to challenge abuses that impact their development. C4D to be implemented at a scale to empower more children.

GENDER EQUITY

WEPED358
DON’T FORGET THE BOYS: EQUITY AND GENDER CONSIDERATIONS IN VULNERABLE CHILDREN ATTENDING COMMUNITY-BASED PROGRAMMES IN SOUTH AFRICA AND MALAWI

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Background: IPV can lead to illness, poverty, bereavement, and stigma, in both HIV-infected and affected children. Girls and boys face different challenges, yet current global data is not disaggregated by gender until adolescence or adulthood. Much research shows negative effects of HIV on girls, most notably reduced educational outcomes and caregiving burden, and programming for girls has flourished. Boys, however, also face challenges, and a focus on gender should not inadvertently disadvantage them.

Methods: Longitudinal data were gathered from 989 children (including 135 HIV+) and primary caregivers in two African countries with high infection rates, from at-tenders at a randomly selected sample of community organisations (99% response rate, 86% at follow up 15 months later).

Results: At baseline, there were no gender differences according to country, child age, school attendance, child home, parental bereavement or HIV status. However, boys were more likely to experience community violence (χ²=13.24, p<0.001) and harsh physical discipline (52.9% vs 41.1%, χ²=9.41, p<0.002). Boys were less often in the correct class (66.1%-vs-76.0%, χ²=11.24, p<0.001), scored lower on educational functioning (M=82.30 vs M=88.27, t(890)=4.17, p<0.001) and suffered a higher number of educational risks (M=0.95 versus M=0.64, t(864)=0.27, p<0.001). Boys displayed more behavioural and emotional problems (M=3.25, and were more likely to report engaging in delinquent behaviours (t(903)=3.49, p<0.001). Controlling for cognitive abilities, developmental delay, carer HIV status and school attendance, girls were still approximately 1.5 times more likely to be in the correct class for their age than boys.

Further analyses showed the association between gender and educational functioning was mediated by exposure to community violence and harsh physical discipline. A similar mediation effect was found for educational risk. All the gender differences at baseline were still significant at follow-up. Furthermore at follow-up boys reported a significantly lower quality of life (t(914)=2.51, p<0.05).

Conclusions: Our data shows boys affected by HIV are exposed to specific risk factors which contribute to poor educational outcomes and quality of life. A sustained approach to preventing HIV for both girls and boys should include a focus on specific programming for boys.

WEPED360
OPPORTUNITIES FOR ADVANCING WOMEN’S RIGHTS THROUGH COMMUNITY-BASED CARE OF CHILDREN AFFECTED BY HIV: EVIDENCE FROM SWAZILAND

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Background: Women’s disproportionate burden of care-related labor prevents them attaining human rights including gender equality, fair work conditions and health. International policies advocate care of children affected by HIV in families and communities, where care-related labour is typically undervalued, unpaid women’s work. Unless they address gender inequalities, these policies may detract from women’s rights. In this presentation we aim to highlight opportunities for advancing women’s human rights through community-based care and programs.

Methods: Data detailing community-based, care-related labor were generated through mixed-method participatory action research. It investigated health, partici-

Conclusions: There is an urgent need to advocate for gender equity and many opportunities to advance women’s rights through community-based care policy and programming. The results of this study suggest that providing a living wage, increased psycho-social support, learning opportunities and access to labor-saving technology for home and community-based child carers, and sensitizing communities about women’s rights and the importance of child-care related labor, can simultaneously advance women’s rights and improve children’s care.

WEPED361
MAPPING OF POLICIES, LAWS AND SERVICES ON GBV AND HIV INTERSECTIONS IN NIGERIA

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Background: Studies have shown that exposure to violence is a strong predictor of HIV infection (WHO, 2000). In Nigeria, HIV prevalence among the general population is 3.4%. and the national median prevalence among pregnant women is 4.1%. Result of the National HIV/AIDS Reproductive Health Survey (2007) revealed that gender inequality is an important driver for the epidemic. Prevalence rates have been found to be higher among females (4.0%) than males (3.2%).

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WEPE0362
TRANSFORMING THE NEXUS BETWEEN SUBSTANCE USE TREATMENT AND HIV/AIDS IN VIETNAM
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Background: The ~200,000 people who inject drugs (PWID) and their sexual partners are focal populations in Vietnam’s HIV/AIDS epidemic; thus, the HIV/AIDS response and substance use policy are highly interdependent. Long‐view trends of drug use as a “social evil” produced a system of compulsory drug detention centers, which reached a peak of >120 centers with >100,000 residents in 2008. These centers’ regimen - detoxification, “moral education”, and labor - has no basis in evidence and is highly ineffective (relapse rates >90%), extremely expensive, and violates human rights.
Description: Advocacy by civil society and international organizations combined with evidence from methadone maintenance treatment (MMT) to produce major changes in substance use policy. Successful pilots begun in 2008 prompted MMT expansion to 43 provinces. Vietnam also decriminalized drug use (2009) and requires court decisions to send PWID to compulsory centers (2012). Civil society and other stakeholders worked with the Ministry of Labor, Invalids, and Social Affairs (MOLISA) to develop a “Renovation Plan”, approved by the Prime Minister in 2013, that recognized drug addiction as a chronic, relapsing condition and committed to a transition from compulsory detention to voluntary, evidence‐driven treatment. Timelines and targets for closure of compulsory centers or their conversion to voluntary treatment programs were promulgated. By 2015, the number of compulsory centers was down to 95 and residents to 15,500. SCDI, a local NGO, is working closely with MOLISA to develop in three provinces the voluntary treatment programs called for in the Renovation Plan, training programs on addiction treatment and social work, and a monitoring and evaluation framework for the Renovation Plan.
Lessons learned: This experience demonstrates that government is willing to work with civil society and follow evidence to transform substance use treatment, which in turn will strengthen the HIV/AIDS response. However, the transition will be lengthy, with some powerful interests still opposed, and periodic setbacks likely.
Conclusions/Next steps: The M&E framework should be implemented so that progress in the transition may be monitored and stakeholders have data to advocate full implementation of the Renovation Plan and ongoing improvement in uptake, quality, outcomes, and cost‐effectiveness of voluntary treatment.

WEPE0363
ADDRESSING THE TREATMENT ACCESS BARRIERS FOR PERSONS LIVING WITH HIV (PLHIVS) IN GOVERNMENT PATIENT SUPPORT CENTERS IN KISUMU COUNTY
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Background: Incidents of stigma and discrimination among Persons living with HIV accessing care and treatment support at government health facilities has been documented in the Kenya. Research finding indicates that stigma and discrimination has caused PLHIVs to avoid or fear accessing quality HIV care and treatment services, including counseling, prevention and support.
Youth Arise Against HIV/AIDS and TB’s advocacy interventions seek to see an improved engagement with the collaborative HIV and TB response to promote human rights and engage in national‐level advocacy around rights issues.
Description: A half day forum was conducted for selected 30 PLHIVs who were members of support groups, some of whom are Community Health Volunteers, caregivers, parents and young people that access care at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) in Kisumu County. The meeting was convened to discuss and identify issues affecting PLHIV in accessing care at JOOTRH and other different government patient support centers and suggest ways of addressing them. The main objective was to empower everyone involved to ensure they don’t infringe right of PLHIVs as they access care. , Come up with a report as well as a memorandum to engage Key stakeholders at the Kisumu County Health Ministry in Kisumu County so as to improve services and also come up with ways of addressing it.
Lessons learned: The PLHIVs representatives came up with a petition signed with 1000 signatures, which was presented to the Kisumu County MOH that manages the facility. After getting the signed petition, the MOH scrapped off the baseline tests and registration fee that were barring PLHIVs from accessing treatment and also led to high rate of default and none adherence . The MOH and the facilities

ETHICS AND HUMAN RIGHTS ASPECTS OF ACCESS TO PREVENTION, DIAGNOSIS, TREATMENT AND CARE INTERVENTIONS

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Background: Wrongful arrest, confiscation of injecting equipment and assault contribute to high‐risk injecting and unsafe equipment disposal among people who inject drugs (PWID). Human rights violations affecting PWID in South Africa have not been quantified. We aimed to measure these violations and map the electoral wards (wards) where they occurred in a needle and syringe programme (NSP) in Cape Town, Durban and Pretoria (South Africa). Political and community resistance to the NSP occurred between September and November 2015 in two wards; one in Pretoria and another in Cape Town.
Methods: Data collection began in August 2015 as part of service delivery and included data on: confiscation of injection equipment; arrest for needle and syringe possession; detention without cause or processing; physical assault, and wards where violation occurred. Data was recorded on paper forms, entered into a spreadsheet and analysed using frequencies, proportions and geospatial mapping.
Results: Between August and December 2015, 232 violations were reported (116 in Pretoria, 108 in Cape Town and 22 in Durban), namely: confiscation of injecting equipment (144), arrest without cause or processing (20), and physical assault (28). Fifty six percent (65/116) and 75% (81/108) of the violations occurred in the wards where resistance to the NSP were experienced in Pretoria and Cape Town, respectively. The needle return rate in the ward that experienced resistance dropped by 29% (350 to 250 per day) between August and November 2015. In Cape Town, the number of PWID accessing NSP services from the NSP mobile clinic between 1 November and 15 November 2015 in the ward experiencing resistance dropped from 30 to 5 per day after the clinic relocated in early November 2015 due to political pressure.
Conclusions: More human rights violations occurred in wards where resistance to the NSP was experienced compared to wards where no resistance was encountered. Resistance and human rights violations negatively affecting injection equipment disposal and access to NSP services. The effectiveness of NSPs to prevent HIV infections among PWID could be improved through focused advocacy and training around evidence‐based HIV prevention interventions for PWID within law enforcement agencies, the broader community and political leaders.
WEPE364
DELIVERING A HUMAN RIGHTS BASED APPROACH TO ANTENATAL CARE: HEALTH CARE PROVIDERS’ EXPERIENCE AND PERCEPTIONS IN CONTEXTS OF HIGH HIV PREVALENCE AMONG PREGNANT WOMEN AND GIRLS
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Background: In Southern Africa, HIV-related illnesses are a major cause of death among pregnant women and girls and have exacerbated the region’s high rates of maternal mortality. In South Africa nearly 30% of pregnant women and girls are living with HIV, available antiretroviral treatment can improve maternal health outcomes and reduce the risk of mother-to-child transmission. Early access to antenatal care is particularly important in this context. Despite commendable health policies, many pregnant women do not access antenatal care until the latter stage of pregnancy, indicating human rights failures. A human rights based approach (HRBA) to health care policy development and implementation aims to ensure availability, accessibility, acceptability and quality of services. Health care providers can play a key role.

This study focused on health care providers’ experiences and perceptions of delivering antenatal care in settings with high prevalence rates of HIV among pregnant women and girls. It aims to evaluate the challenges of delivering a HRBA to antenatal care.

Methods: The primary research relates to a qualitative study, and interviews with 32 health care providers involved in provision of antenatal care services in public primary health care facilities in KwaZulu-Natal and Mpumalanga. Permission for the study was granted by the provincial Departments of Health and ethical clearance from the Human Sciences Research Council. The data was analysed on a thematic basis for commonalities.

Results: In contexts of high HIV prevalence the lack of privacy, patient confidentiality and informed consent at health facilities, especially in HIV testing during antenatal care may result in delays accessing care; Difficult working conditions for health care providers, including understaffing and lack of human rights training exacerbates challenges in providing care and treatment to pregnant women living with HIV in a manner consistent with a HRBA.

Conclusions: Health care providers were supportive of a HRBA but often unable to fulfill requirements without resources and support. In resource scarce setting, a HRBA may lead to small changes in implementation that improve access. Ongoing training and support is necessary to ensure that health care providers are adequately trained to provide a HRBA.

WEPE366
TALKING SEX AND INTERPRETING HIV RISK IN SOUTH AFRICA AND ZAMBIA: AN ANALYSIS OF THE INFLUENCE OF COLLOQUIAL DISCOURSE ON CONCEPTUALISATIONS OF SEX, HIV-RELATED RISK AND STIGMA
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Background: Speaking about sex is often awkward, and sometimes taboo in many southern African contexts. Colloquialisms are used to create a conversational way for people to talk about sex. We ask, how does the way people talk about sex (using discursive tools like metaphor, idiom, slang, and euphemism) influence the way they think about HIV risk?

Methods: In preparation for the HPTN 071 trial, mixed-method qualitative data from 21 urban communities in Zambia and South Africa were collected between December 2012 and May 2013. In each place, semi-structured observations, 130 group discussions (participants = 1107) and 95 interviews were conducted about ‘HIV prevention in this community’: Purposive sampling was used to include diverse participants (by gender, age, and role in this community/health system). Narrative analysis was used to identify conceptual themes.

Results: As anticipated, participants did not discuss sex openly. Colloquialisms were used to describe sex acts. In turn, this sex ‘language’ extended into conceptualisations of HIV risk in four ways: (1) Categorical distinctions made between different sex acts facilitate a conceptualisation of HIV risk and stigma that is highly sex act specific. For example, ‘high sex’ is only appropriate with casual partners. (2) Metaphors of sex after succumbing to pressure support conceptualisations of HIV risk as a form of retribution and ‘justifies’ stigma toward people living with HIV (PLWH). For example, ‘stumbling’ into infidelity resulting in HIV infection. (3) Language affirming the role of sex in relationships positioned HIV as an ‘outside element’ that is allegorised as ‘seeking to harm’ and HIV risk to be pernicious. For example, accusations of PLWH being driven by evil influences to vindictively spread HIV. (4) Euphemisms for PLWH reiterate that the body is damaged (permanently) and strongly emphasizes HIV riskiness and is stigmatising toward PLWH. For example, ‘brokenhearted’ (The state of brokenness)’ is an Afrikaans term sometimes used to describe PLWH and perceived as adversely affecting sexual prowess.

Conclusions: Colloquialisms used to talk about sex extend into the way people think about HIV-related risk and are stigmatising toward PLWH (emphasizing vulnerability to retribution and frailty). Public health promotion should engage these colloquial discourses to facilitate messaging comprehension.
WEPE367
SEX, MARRIAGE AND HIV RISK: REACHING REGULAR FEMALE PARTNERS OF MSM, TRANSGENDER WOMEN AND HURAS TO IMPROVE IMPACT OF INDIA’S HIV RESPONSE. EXPERIENCE FROM PECHEAN
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Background: The Pechhan programme, implemented by India HIV/AIDS Alliance with support from the Global Fund, has strengthened 201 CBOs and reached more than 43,000 MSM, transgender women, and hijras (MTH) with expanded HIV services. The programme’s baseline in 2011 showed that 34% of MTH were legally married to female spouses, and of these MTH, 73% of them lived with their wives. In the 2015 Pechhan Impact Assessment Study, data showed that 50% of MSM studied also have regular or occasional sex with female partners. Only 50% of them reported any condom use with these partners, and consistent condom use was only 41%. Similarly, 65.88% of MTH surveyed had regular sex with male partners, 96% of which was penetrative. Only 77% of them used condoms in their last sexual encounter. Low condom usage, marital status, and relationship issues increase HIV vulnerabilities of MTH and their sexual partners.
Description: Pechhan has worked intensively to reach female sexual partners of MTH. 2,679 female partners of married MTH were provided sexual and reproductive health (SRH) services through linkages to Family Planning Association of India (FPAI) clinics, ensuring access to good quality SRH services. Counselling, support groups for married MTH, and focus group discussions with female partners were undertaken. A training module for Pechhan staff on MTH with female partners was developed, along with other IEC materials. A pilot intervention at programme sites in three states helped mitigate and prevent intimate partner violence. lesbian, gay, bisexual and transgender (LGBT) groups for married MTH, and focus group discussions with female partners were undertaken. A training module for Pechhan staff on MTH with female partners was developed, along with other IEC materials. A pilot intervention at programme sites in three states helped mitigate and prevent intimate partner violence.
Lessons learned: Engaging MTH with female partners has facilitated improved understanding of SRH, fostered higher levels of support for female partners by MTH, expanded uptake of SRH services, increased HIV testing, and reduced partner violence. This approach has proved effective in reducing HIV vulnerability in MTH and their female sexual partners.
Conclusions/Next steps: HIV prevention interventions often fail to develop strategies to reach the sexual partners of key populations. The HIV response in India needs to incorporate a more inclusive approach to ensure that interventions address the range of HIV and SRH needs of those at risk for HIV acquisition, both MTH themselves and their sexual partners, including spouses and other female partners.

WEPE369
KEY DETERMINANTS OF MOTHER TO CHILD TRANSMISSION AMONG WOMEN ON THE EMTC PROGRAMME IN MASHONALAND EAST PROVINCE
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Background: The national objective of the elimination of mother to child transmission of HIV in Zimbabwe is to have a transmission rate below 5%. However, in Mashonaland East province transmission rates as high as 11% were recorded in 2015. This study therefore sought to establish the reasons for such high rates in the province.
Methods: A case-control methodology was adopted for the study, whereas cases were defined as any baby testing HIV positive at birth and in neo-natal care; controls were babies born HIV negative at birth and in neo-natal care. Cases and controls were matched on the basis of demographic variables, knowledge about eMTCT, attitude towards eMTCT, health seeking behaviour, and practices during pregnancy and eMTCT. The respondents were HIV positive mothers whose babies tested HIV positive or negative after 6 weeks of birth. The sampling frame was based on the ANC register and the identified participants were to be traced to their communities.
Results: A total of 573 questionnaires were received, and 555 records were considered for analysis as they were more than 80% complete. Of those included for analysis 31.2% transmitted the virus to the child whilst 68.8% did not transmit the virus to the child. The odds of transmitting the virus to those who had booked for ANC were 62% less likely compared to those who did not book for ANC. Those who were tested during pregnancy were 59% less likely to transmit the virus compared to those tested after pregnancy. Those who delivered at home were 2.5 times likely to transmit the virus to the baby compared to those delivered at the clinic and it was statistically significant. Babies who received prophylaxis had 85% less chances of being infected compared to those who did not, and it was statistically significant.
Conclusions: The study established HIV transmission among pregnant women in province is a result of HIV positive women delivering at home rather than health centres, pregnant HIV positive women enrolling late for ANC, failure to get tested for prophylaxis by both mothers and babies, failure to get tested for STIs before and during pregnancy, and failure to adhere to exclusive breastfeeding in neo-natal care.

WEPE368
LOVELIFE’S GROUNDBREAKER MODEL: ADDRESSING STRUCTURAL DRIVERS OF HIV AND AIDS AMONG SOUTH AFRICAN YOUTH
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Background: LoveLife is South Africa’s largest national HIV prevention initiative. A nation-wide youth volunteer service corps called groundBREAKERS implements loveLife’s various HIV prevention campaigns across the country. Youth leadership and development are at the core of the groundBREAKER programme, which was started in 2001 for South Africans aged 18-25. This paper focuses on evaluations conducted with the 2009, 2010 and 2011 cohorts and seeks to understand the self-reported outcomes and impact of the programme on participants during this period.
Methods: The groundBREAKER evaluation model is a non-experimental design that uses a mixed method approach that includes quantitative and qualitative questions. The programme is evaluated at three different stages: a pre-questionnaire, a post-questionnaire and an ex-post questionnaire two years after groundBREAKERS have exited the programme.
Results: Both outgoing and alumni respondents hold the groundBREAKER programme in high regard. The data also suggests that alumni have a greater consciousness about their risk of HIV infection and have learned strategies to assist them in modifying their risky behaviour. Perhaps most importantly, groundBREAKERS also reported behaviour that is conducive to risk reduction two years after having completed the programme. A high percentage of respondents reported that they can get their boyfriend or girlfriend to use a condom, even if he/she does not want to: 94% in 2010 and 92.3% in 2011. Approximately eighty percent of alumni respondents from each cohort also reported using a condom the last time they had sex (82.7% in 2009, 79.8% in 2010 and 81.4% in 2011). Further to this, four out of five alumni respondents reported having an HIV test in the past six months which is an indication of regular testing after exiting from the programme. Finally, the fact that the vast majority of alumni respondents from 2010 and 2011 credit loveLife with changing their sexual behaviour (80.8% in 2010 and 92.4% in 2011), should be viewed as a major programmatic achievement.
Conclusions: The findings from the evaluations for all three cohorts strongly indicate that the programme has helped loveLife in contributing to the reduction of HIV incidence among young people.

WEPE370
WINNING THE BATTLE AGAINST INVISIBILITY: FEMALE SEX WORKERS ORGANISED FOR CHANGE IN THE HIV RESPONSE APPROACH IN NIGERIA
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Background: Past HIV prevention interventions for female sex workers in Nigeria had been organized by others for the community with little attention paid to addressing structural interventions that can create the needed support for HIV response for the Community. Female sex workers realized the need to change the current paradigm of HIV prevention and treatment management for female sex workers and therefore took actions to get themselves for prophylaxis by both mothers and babies, failure to get tested for STIs before and during pregnancy, and failure to adhere to exclusive breastfeeding in neo-natal care.
Methods: In 2014, Female sex workers in Nigeria took the opportunity created by the Global Fund NFM initiative to organize the first ever national meeting of female sex workers in Nigeria. Discussions at the meeting included the need to self organize to increase access of female sex workers to HIV prevention tools and STI management through demand for drop-in-centres, and how to improve the structural intervention needs of female sex workers by directing national efforts to reduce female sex workers’ harms. In addition, strategies to institute safe guard measures for preventing HIV transmission were also highlighted. As a first step, representatives of FSW were charged with the responsibility of organizing focus group discussions at the state level.
Results: Thirty focus group discussion meetings were held to step down the outcome of the national meetings to peers. The number of participants at each meeting ranged from 24 to 50. Second, the national executive focused attention on the National stakeholders’ and instituted requests for the establishment of drop-in-centres. These demands have resulted in the creation of 24 drop-in-centres in Nigeria. Finally, 125 female sex workers participated in a road show during the 2015 World AIDS Day in Abuja, Nigeria highlighting the needs to respect the rights of female sex workers, and respect their contribution as part of the national workforce in Nigeria.

Conclusions: Female sex workers can self-organize if and when given the space. Organizing the female sex worker community in Nigeria would facilitate tailored intervention for the community and make a difference for the national HIV response in Nigeria.

WEPED371 FINDINGS FROM A QUALITATIVE EVALUATION OF INTERSECTIONS II: CRITICAL ELEMENTS FOR A SUCCESSFUL TELEVISION DRAMA
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Background: The second series of the highly acclaimed South African drama series, Intersections, was broadcast from February to October 2013. The series aimed to show the risks of keeping secrets that can impact on sexual and reproductive health; highlight sexual networks and the comorbid HIV infection risk, emphasise HIV risk reduction practices, and to promote tolerance and acceptance of the lesbian, gay, bisexual, transgender and intersex (LGBTI) community.

Methods: Utilising a qualitative approach, 14 focus groups and 12 interviews were conducted with target and secondary audiences in six provinces across South Africa. The objective of the evaluation was to find out what regular audiences thought of the drama and how it was meaningful to them in the context of their own lives.

Results: Aspects identified as critical to the success of the drama in having an impact on regular viewers included:
- Realism: The series was lauded for its astounding realism and was often referred to as a ‘reality show’ in the way it ‘exactly’ depicted ‘the things that you see happen in life’.
- Critical self-reflection: Participants reflected on their own relationships and the quality and type of communication they have with their sexual partners.
- Social media: Intersections broke new ground in terms of how social media platforms can be strategically used within health communication programmes.
- Interpersonal communication: Watching Intersections created a space for a new level of openness in a number of participants’ family relationships.

Sexual minorities: Numerous participants indicated that storylines promoting acceptance of sexual minorities were effective at reinforcing existing positive attitudes towards sexual minorities.

Behaviour change: Meaningful self-reported behaviour change as a result of participating in the campaign were more likely to remember TB prevention strategies. The campaign successfully motivated behavioural change in that those who recall being exposed to the campaign were more inclined to get tested for HIV and TB.

Conclusions: Effective communication campaigns can reach large numbers of people in the population, impact on key health knowledge and health seeking behaviour for better population health outcomes.

WEPED372 THE ROLE OF BEHAVIOUR CHANGE COMMUNICATION IN IMPROVING COMMUNITY KNOWLEDGE ON TB AND HIV IN SOUTH AFRICA
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Background: HIV/AIDS and TB remains a concern in South Africa, with an estimated 6.8 million people affected by the disease at the end of 2014. South Africa has made significant strides in prevention interventions and improving access to treatment the spread of the epidemic is still of serious concern. The need to increase community knowledge on TB and HIV remain critical to influence factors that lead to individuals making healthy choices.

Methods: ‘We Beat TB’ is a national mass media campaign developed under the USAID TB Program South Africa and continued under the USAID TB CARE II South Africa Project, aimed to improve health-seeking behaviour among South African communities by increasing knowledge on TB and TB/HIV prevention, encouraging early presentation for diagnosis, treatment and treatment adherence.Messages on TB and TB/HIV co-infection were broadcast on national television and radio channels between the years 2010-2013. The ‘We Beat TB’ campaign included community partnerships to raise awareness of symptoms of TB and HIV, and tested messages were distributed in the form of pamphlets and billboards in area specific language. The campaign was evaluated in 2014 through a Khayabus omnibus survey which sampled 3,598 nationally representative population through in-home face to face Computer Assisted Personnel interview. The survey sample was weighted to the entire adult South African population, aged 15 years and older. A margin error of 1.63% is applicable.

The evaluation assessed the campaign’s impact on knowledge, attitudes and behaviours towards testing for HIV and TB.

Results: The ‘We Beat TB’ campaign achieved awareness on TB and HIV information among 45% of the South African population. South Africans who were exposed to the campaign were more likely to remember TB prevention strategies. The campaign successfully motivated behavioural change in that those who recall being exposed to the campaign were more inclined to get tested for HIV and TB.

Conclusions: Effective communication campaigns can reach large numbers of people in the population, impact on key health knowledge and health seeking behaviour for better population health outcomes.

WEPED373 OPPORTUNITIES AND OBSTACLES FOR PREVENTION AND PSYCHOSOCIAL SUPPORT SERVICES FOR OLDER PERSONS LIVING WITH HIV IN UGANDA
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Background: HIV prevalence among older people (above 50 years) stands at more than 13% of sub-Saharan HIV positive persons. This is attributed to; new infections among elderly, prolonged survival that follow improved treatment (anti-retro-viral therapy); cultural practices including trans-generational sex, polygamy and wife inheritance. Age-related vaginal thinning and dryness among older women increase the risk of infection. The Elderly have inadequate prevention and support services because they are not considered to be sexually active and symptoms of HIV among them are attributed to ‘normal ageing’.

Methods: This study attempted to examine opportunities and obstacles for HIV prevention and psycho-social support services for elderly people. The study depended on secondary data from a longitudinal qualitative study of older people in Uganda infected and affected by HIV. It was embedded within a larger cross-sectional study on indirect and direct effects of HIV for 510 older people living in southern Uganda. Monthly visits for up to 12 months were done to collect an oral diary on each participant’s life during the preceding week. For data analysis, standard methods for thematic content analysis were conducted and the NVIVO software was used.

Results: Disclosure about HIV by the elderly is hindered by stigma of being associated with HIV, given the esteemed association with being elderly in the African society. While kinship ties that used to be instrumental in the provision of care and support for elderly are being eroded by increasing mobility and urbanization, opportunities for alternative care-giving schemes exist. The paper discusses these opportunities in light of numerous obstacles which include among others;

1) perceived invulnerability of elderly people to HIV;
2) Messages, formats and media campaigns for HIV prevention that are designed for younger generations.

Conclusions: Prevention and psycho-social support services should be age-segmented to;

a) address peculiar needs of various age groups;
b) create awareness that elderly people are equally susceptible to HIV despite their age and status in society.

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Late Breaker Posters

Author Index
HIV TESTING AND SAMPLING
M. van Niekerk, S. A. Meehan
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Background: South Africa has adopted the UNAIDS goal, which includes 90% of all people living with HIV who know their status by 2020, making HIV testing services essential. Health services cannot test everyone. Community-based HIV counselling and testing (CBHCT) strategies can reach populations who do not typically access health services, e.g. males. This study analysed the routine data collected from two innovative CBHCT strategies, strategically implemented around Cape Town, to increase the number of HIV positive individuals who know their status.

Methods: In 2015, the Desmond Tutu TB Centre at Stellenbosch University implemented:
(1) mobile HCT services using tents and a van at a major city transport hub, targeting commuters for “walk-in” services, and
(2) systematic door-to-door mobilization for mobile HCT services in the community, targeting people living in a high HIV/TB burden area. Data was collected between 23 June and 23 September 2015. All HIV rapid testing was done according to the provincial algorithms. Data was collected in HCT registers and entered into a database for analysis.

Results: Of the 3921 clients who attended HCT, 3859 received an HIV test, of which 48% were men. Overall HIV positivity was 7%. Females had a higher positivity (8%) compared to males (5%) across both strategies. The majority of HIV-infected clients (93%) accepted a referral letter to HIV care, irrespective of sex. Linkage to care (LTC) was self-reported by clients that they had attended HIV care at a health facility. LTC was higher for door-to-door mobilization compared to the transport hub for both males (61% and 32% respectively) and females (58% and 44% respectively).

Conclusions: HIV positivity was higher in both CBHCT strategies compared to the HIV prevalence for the Western Cape Province overall. Innovative and strategically directed CBHCT strategies can increase the number of HIV infected individuals who know their status and access male, who do not typically access health facilities.

WEPE373
FORMATIVE RESEARCH AS A TOOL TO ADDRESS ETHICAL CONCERNS DURING A FAMILY-BASED HOME-BASED COUNSELLING AND TESTING (FBCT) INTERVENTION DEVELOPMENT PROCESS IN KWAZULU-NATAL

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Background: Conducting formative research is a scientific, ethical and community engagement imperative. This paper discusses formative data on the perspectives of key informants and community stakeholders regarding a family-based home based counselling and testing (FBCT) intervention. We draw on a popular ethical framework for research in developing contexts (Emanuel et al., 2004) to analyse these perspectives.

Methods: In-depth interviews were conducted with 20 key informants and 20 community stakeholders to explore their perspectives on components of the FBCT model, potential implementation challenges, possible barriers or facilitators to uptake, potential social harms and ethical issues when working with children and families. Respondents were purposively selected to include key informants with extensive knowledge and/or experience of the topic and community stakeholders who previously participated in a HBCT intervention, or from existing social and community networks in the area. Data were analysed thematically using NVivo software.

Results: The formative research identified areas of support and concern regarding the FBCT intervention. Following Emanuel and colleagues these can be clustered according to eight key ethical benchmarks: collaborative partnerships, social value, scientific validity, favourable risk/benefit ratio, informed consent, independent review, fair selection of participants, and on-going respect for participants. Respondents raised concerns about confidentiality of their HIV results which relates to the principle of on-going respect. Concerns that adolescents will be coerced to test for HIV relates to informed consent, and fears of disclosure to family members and the broader community relate to risk-benefit considerations. Respondents reported potential positive outcomes of the intervention including enabling families to access a service at home rather than a clinic (risk-benefit ratio) and improved outcomes for disclosure (social value). This data was used to refine the intervention and address stakeholders’ concerns by engaging the community, training intervention staff on ethics, and incorporating independent consent mechanisms to address stakeholders’ concerns by engaging the community, training intervention staff on ethics, and incorporating independent consent mechanisms.

Conclusions: Formative research assisted the research team to address concerns prior to piloting the FBCT model, and to address family, socio-cultural and community factors that may impact the effective delivery of a FBCT intervention.

WEPE374
WORKING TOWARDS INCREASING THE NUMBER OF HIV-INFECTED PEOPLE WHO KNOW THEIR STATUS IN CAPE TOWN SOUTH AFRICA: LEARNING FROM TWO INNOVATIVE COMMUNITY-BASED HIV COUNSELLING AND TESTING STRATEGIES

1September: M. van Niekerk, S. A. Meehan
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Background: Directed CBHCT strategies can increase the number of HIV infected individuals who know their status. Innovative and strategically directed CBHCT strategies, strategically implemented around Cape Town, to increase the number of HIV positive individuals who know their status.

Methods: In 2015, the Desmond Tutu TB Centre at Stellenbosch University implemented:
(1) mobile HCT services using tents and a van at a major city transport hub, targeting commuters for “walk-in” services, and
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Results: Of the 3921 clients who attended HCT, 3859 received an HIV test, of which 48% were men. Overall HIV positivity was 7%. Females had a higher positivity (8%) compared to males (5%) across both strategies. The majority of HIV-infected clients (93%) accepted a referral letter to HIV care, irrespective of sex. Linkage to care (LTC) was self-reported by clients that they had attended HIV care at a health facility. LTC was higher for door-to-door mobilization compared to the transport hub for both males (61% and 32% respectively) and females (58% and 44% respectively).

Conclusions: HIV positivity was higher in both CBHCT strategies compared to the HIV prevalence for the Western Cape Province overall. Innovative and strategically directed CBHCT strategies can increase the number of HIV infected individuals who know their status and access male, who do not typically access health facilities.

WEPE375
HIV TESTING MODELS AND THEIR IMPLICATIONS FOR PATIENT ENGAGEMENT WITH HIV CARE AND TREATMENT ON THE EVE OF “TEST AND TREAT”: FINDINGS FROM THE BOTTLENECKS STUDY

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Background: In the context of ever-expanding opportunities to undergo HIV testing, we sought to understand the circumstances under which people living with HIV/AIDS (PLHIV) learned their status and considered how these experiences influenced their subsequent engagement in HIV care.

Methods: As part of a multi-site qualitative study to understand bottlenecks in HIV care, we conducted in-depth interviews with 5-10 health providers and 20-30 PLHIV in: Uganda, South Africa, Tanzania, Kenya, Malawi and Zimbabwe. Topic guides explored patient and provider experiences of HIV testing and treatment services. Themes were derived through inductive and deductive coding aided by NVivo10. Ethical approval was gained in all countries.

Results: In all sites, providers primarily viewed testing as an opportunity for delivering moral messages regarding sexual behaviours and expectations of HIV clinic use. In contrast, PLHIV were rarely motivated by the opportunity to gain health workers’ advice, but rather wanted to “check” or “know” their status, particularly if they were ill, or perceived themselves at risk from a partner’s known or unknown status and sexual behaviours. HIV testing through provider-initiated models was generally appreciated by PLHIV, but was rarely perceived as a choice, and there were instances of coercion including excessive insistence on “counselling until acceptance”, testing without consent or withholding further medical attention. Responses to “submission” during the testing process included subsequent disengagement from the HIV care process. Repeat testing was common, even among those already diagnosed, and could be provider or patient-initiated. Providers rarely accepted documented test results from other facilities. Some patients re-tested because of doubts over the accuracy or better test results, or over the persistence of HIV infection after treatment initiation. However both cases represented an opportunity to develop familiarity with clinic and testing procedures, as well as to build mutual trust with health workers.

Conclusions: Opt-out clauses in provider-initiated testing must be respected. Provider-initiated re-testing suggests missed opportunities for communication between service providers. Patient-initiated testing and re-testing represented an enactment of agency in the context of uncertain risks, which was often more important in promoting acceptance of an HIV diagnosis and facilitating engagement with long-term care than the moral messages delivered by counselors.
Lessons learned: Using the workplace as an entry point to create demand for VCT is an effective vehicle to reach workers with HIV services. This strategy also expands health services to the communities surrounding the workplace. The VCT@Work initiative has increased the demand for testing at community and workplace levels.

Conclusions/Next steps: ILO will continue to promote public-private partnerships to reach more workers and their families with VCT services.

**ACCEPTABILITY AND IMPACT OF PROMOTING ABSTINENCE, MONOGAMY AND/OR SEXUAL FIDELITY**

**WEPE379**

**UNDERSTANDINGS OF SEXUAL FAITHFULNESS AND RELATIONSHIP SATISFACTION AMONG MEN AND WOMEN IN PERI-URBAN UGANDA**

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**Background:** While Uganda has had well-recognized success in reducing HIV transmission nationally, HIV prevalence in urban areas remains high (8.7% in the 2011 AIDS Information Survey). Men and women living in high-density, low-income, peri-urban areas may be particularly likely to engage in multiple and concurrent sexual partnerships and other high-risk sexual behaviors which put them at risk of HIV infection. Effective HIV prevention among married and cohabiting couples remains a challenge. Increasing couple relationship quality may decrease HIV risk behaviors such as multiple and concurrent sexual partnerships and increase protective behaviors such as mutual HIV testing and disclosure.

**Methods:** As part of a couple-focused HIV prevention intervention in peri-urban Kampala (which aimed to decrease HIV risk through strengthening couple relationships and increasing sexual faithfulness), single-gender focus group discussions were held to explore issues of couple relationship quality and satisfaction. A total of 39 men and 50 women participated in 8 focus group discussions. All participants were between the ages of 20 and 49 and were married or cohabiting.

**Results:** Men and women presented diverse opinions on the degree to which couples were satisfied in their relationships, although there was consensus that many couples were not satisfied and that this lack of satisfaction drove men and women to seek other (concurrent) sexual partners. Common relationship problems included financial issues, lack of sexual satisfaction (for men and women), and domestic violence. Participants reported that while some couples decided to stay together because they had children together, relationships were often characterized by deception, secrecy, and a lack of trust and positive communication. Having outside (concurrent) sexual partnerships was felt to be common, and to often lead to the ending of a relationship. Participants were aware that multiple and concurrent sexual partnerships increased risk of HIV and other STIs, and some mentioned fear of HIV, STIs, and pregnancy as reasons to be faithful to a sexual partner.

**Conclusions:** These data demonstrate the need for couples-focused HIV prevention interventions, particularly those which help men and women to develop relationship skills and build more mutually satisfying and faithful relationships.

**CONDOM AND LUBRICANT AVAILABILITY, ACCESSIBILITY, DISTRIBUTION AND/OR SOCIAL MARKETING**

**WEPE380**

**ENSURE KEY POPULATION GET ACCESS TO CONDOMS AND LUBRICANT**

S. Nou

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**Background:** Despite an overall decline in HIV prevalence among adults aged 15-49 years [from 2% in 1998 to 0.7% in 2013[1]] in Cambodia, prevalence remains high among members of Key Population (KPs): female entertainment workers (FEWs), men who have sex with men (MSM), transgender people (TG), and people who in...
Background: HIV testing during pregnancy is almost universally available and accepted now and recently, Tanzania adopted targeted universal ART including discordant couples. Understanding factors associated with HIV status disclosure among HIV-positive and HIV-negative women is essential to effectively enroll discordant couples into HIV prevention and treatment services.

Methods: EGRAF is studying the effect of SMS appointment reminders and cash transport payments on clinic attendance and facility-based delivery for HIV-positive and HIV-negative women, and HIV testing of exposed infants. Multivariate regression analysis of baseline data (n=1149) identified factors associated with HIV status disclosure to a partner. Inclusion criteria included pregnant women (>=18 years) attending antenatal care who had at least one prior pregnancy.

Results: The mean age of participants was 27 years; 86% were married; 46% were attending antenatal care who had at least one prior pregnancy.

Conclusions/Next steps: The success of this innovation was recognized, and it has been replicated as a core activity in the National HIV/AIDS strategic plan for 2014-2020 under the prevention package. Additionally, it has been replicated under the Global Fund’s New Funding Model.

ACEPPTABILITY AND UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION

WEPE382
LOW UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) AMONG HIGH-RISK MEN IN MALAWI

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Background: Among 14 priority countries identified by the World Health Organization for voluntary male medical circumcision (VMMC) scale up, Malawi is among those with the lowest VMMC uptake, indicating an urgent need to increase VMMC demand to enhance HIV epidemic control. This study analyzes the HIV risk profile of men accessing VMMC services in Malawi to provide local demand creation programs crucial information to increase uptake.

Methods: Using latent class analysis, we evaluated the risk profile of 269 men (16 years and older) accessing VMMC services in three districts in southern Malawi and examined any differential VMMC uptake by class membership. Classes were defined based on four HIV risk factors: ever tested for HIV, condom use at last sex, having casual or concurrent sexual partners in the previous three months, and using alcohol before sex in the previous three months. Poisson regression was used to determine if being in the high risk group was associated with specific socio-demographic characteristics, including education, age, marital status, religion, district, and location (urban/rural).

Results: Two distinct classes were identified: high and low/medium risk. Only 8% of men in the sample were high risk while 92% were low/medium risk. Results also indicate that men who have a lower level of education (Risk Ratio [RR]: 0.934, p<0.05) and are in the 19-26 age group (compared to 18-16 age group) [RR: 1.076, p<0.05] are more likely to be in the high risk group than in the low/medium risk group.

Conclusions: Findings highlight the importance of understanding the risk profile of men accessing VMMC to design more targeted VMMC demand creation programs. The results indicate a need to implement specialized strategies to improve VMMC uptake among men in the high risk group, who only comprise 8% of those accessing VMMC and who are more likely to be in the 19-26 age group and have a lower level of education.

WEPE383
CORRELATES OF CONDOM USE AND PROCEDURE KNOWLEDGE AMONG MEN ACCESSING VOLUNTARY MEDICAL MALE CIRCUMCISION IN MALAWI

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Background: Research about voluntary medical male circumcision (VMMC) in sub-Saharan Africa has focused on cost effectiveness analyses, service quality, and factors influencing uptake and scale-up. There is a dearth of information about the HIV risk taking behaviors of men accessing VMMC and their HIV knowledge. This study aimed to analyze the VMMC knowledge and condom use correlates among men ac-
cessing VMMC services in Malawi to understand their demographic characteristics and HIV risk profile to provide insights into how to better target communication efforts to improve uptake of VMMC in a country that has had very low VMMC uptake since scale up efforts started in 2011.

Methods: In August 2013, 269 men ages 16 or older accessing VMMC were recruited at service sites in Southern provinces in Malawi. Bivariate and multivariate logistic regressions were used to determine associations and the relative odds of condom use at last sex and VMMC knowledge. Correlates tested included: education, age, location, religion, marital status, ever tested for HIV, having casual or concurrent sexual partners, and alcohol use before sex.

Results: Multivariate analysis revealed condom use was associated with having a casual/concurrent partner in the previous 3 months (Adjusted OR [AOR]: 2.54, CI: 1.15 - 5.60), being single (AOR: 0.40, CI: 0.20 - 0.81), and being 27 or older (AOR: 0.28, CI: 0.10 - 0.75). VMMC knowledge was associated with education (AOR: 2.08, CI: 1.21 - 3.55) and location (AOR: 2.73, CI: 1.620 - 4.587), with men with higher education levels and living in urban areas more likely to know that VMMC partially protects against HIV compared to counterparts.

Conclusions: Results highlight the need to ensure information about VMMC is appropriate for men with a low level of education and living in rural areas. Results also suggest men exhibiting low HIV risk behavior may be accessing VMMC more than men with high-risk behaviors. Further research is needed to understand the HIV risk profile of men accessing VMMC and the reasons why men who do not know VMMC partially protects against HIV are accessing the service as this will provide information to inform efforts to increase uptake.

WEPE384

DEMOGRAPHIC, SOCIOECONOMIC, BEHAVIOURAL AND PSYCHOSOCIAL DETERMINANTS OF WILLINGNESS TO CIRCUMCISE AMONG MEN IN BOTSWANA

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Background: Botswana remains one of the countries most affected by the HIV/AIDS epidemic. Almost all the HIV infections in Botswana are through heterosexual intercourse. In addition to adopting encouraging use of condoms, sticking to one partner and abstaining from sexual intercourse as preventive measures of HIV of sexual HIV infection, Botswana recently promoted male circumcision as recommended by the World Health Organization (WHO). However, the uptake of male circumcision in Botswana has been sluggish. This paper investigates the demographic, socioeconomic, behavioural and psychosocial factors associated with willingness to circumcise among men aged in Botswana with the intention to guide the HIV/AIDS prevention efforts.

Methods: The study uses a sample of 2565 males aged 10 to 64 years who reported to have not circumcised using data from the Botswana AIDS Impact Surveys 2013 (BAIS IV 2013). The outcome variable for the study was whether males were willing to circumcise during the next 12 months. A total of six logistic regressions models were employed to determine factors associated with willingness to circumcise.

Results: Out of the 2565 males who were not circumcised, 45% had intentions of circumcising during the next 12 months from the time of the survey. Findings from the logistic regression analysis revealed that demographic and socioeconomic factors such as age, marital status and level of education were important predictors of willingness to undergo circumcision. Those aged 30 years and above were more than twice as likely to be willing to circumcision during the 12 months after the survey as those aged 10 to 19 years. The never married were less likely to be willing to undergo circumcision (Odds ratio, 0.79) than the ever married. Those with tertiary education were 1.4 times more likely to be willing to undergo circumcision during the next 12 months after the survey than those with primary education and below. Behavioral and psychosocial factors considered were not statistically associated with willingness to circumcision.

Conclusions: In order to increase the uptake of male circumcision in Botswana, promotion of male circumcision strategies should target the young, the never married and those with secondary education or less to increase their likelihood of male circumcision.

INITIATION, DEFERRAL AND INTERRUPTION OF ANTIRETROVIRAL TREATMENT, INCLUDING TREATMENT AS PREVENTION

WEPE385

FEAR AND TRANSFORMATION: GIVING SOCIAL MEANING TO THE BARRIERS AND FACILITATORS OF ENGAGEMENT IN HIV CARE IN ZAMBIA

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Background: Zambia has implemented rapid and widespread roll-out of life-long, free HIV care and treatment (C&I) since 2005. Despite this success, large numbers of people living with HIV (PLHIV) are known to have left or ‘disengaged’ from care. Nested within a 4-province study of care and treatment outcomes and recognising the dynamic role of social and service-related factors, this research examined how and why Zambian PLHIV engage and disengage from care.

Methods: In-depth interviews were conducted with a stratified random sample of 75 adults across five patient categories: engaged in-care, pregnant in-care, disengaged, facility transfer, friend/family of deceased patient. Sixteen focus group discussions were also convened with lay and professional health workers serving the same catchment areas. Audio transcripts were translated, transcribed and uploaded to NVivo QSR™ for thematical analysis incorporating inductive and deductive coding.

Results: Severe ill-health and transformative effects of antiretroviral therapy were powerful motivators for starting and remaining in HIV care. However, the significance of physical recovery and associated motivation to remain in care were consistently discussed in terms of their social implications; i.e. how they helped PLHIV resume and sustain their role as healthy, productive members of society. Barriers to engagement were also framed in terms of social meaning, especially, self- and community-stigma, that branded people accessing HIV-care (and thus visible to the community) as ‘immoral’ and ‘dependent’. Particularly in the absence of a ‘lazarus-like’ recovery (e.g. for pre-ART or antenatal clients) such stigmas fed PLHIV’s perception of their own social isolation and decisions to disengage. In-sensitive or (in)convenient service-delivery were frequently reported, but were typically described as reinforcing - versus determinative – factors.

Conclusions: The social implications of engaging or not engaging in HIV-care remain central to Zambian HIV treatment decisions. More focus must be placed on social programs and policies targeting local communities’ understandings of HIV and HIV care, in order to counter negative perceptions and the associated social pressures to disengage from treatment.

WEPE386

USE AND NON-USE OF ANTIRETROVIRAL TREATMENT AMONG PEOPLE LIVING WITH HIV IN AUSTRALIA BETWEEN 1997 AND 2015

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Background: Current international targets aim for 90% of people diagnosed with HIV to be on antiretroviral treatment (ART). Australia is a high income country in which most people living with HIV have access to affordable healthcare and ART. Despite this, recent national surveillance data indicate that 23 to 30 per cent of Australians living with HIV are currently not using ART. The aim of this paper was to identify socio-demographic and attitudinal factors associated with ART non-use over time in four samples of Australian people living with HIV.

Methods: Data for this paper were derived from a cross-sectional survey of PLHIV repeated at four time points: 1997, 2003, 2013 and 2015. There were approximately 1,000 respondents to each survey. The survey included close to 250 items related to health, wellbeing, ART use, and attitudes toward ART use. Univariate and multivariate logistic regression analysis were used to examine factors associated with ART non-use.

Results: ART use in the 2015 sample approached the international target of 90%. There was a significant decrease in ART use between 1997 and 2003, followed by an increase between 2003 and 2015. Factors associated with ART non-use were consistent across all cohorts. People less likely to be using ART were younger (all cohorts), diagnosed with HIV for a shorter period, working full time and reporting salary, rather than social security, as their main source of income (2003, 2012). Multivariate models showed that, over the 18 years covered by these data, belief in the health benefits of delayed ART uptake was associated with non-use.
**Methods:** We developed an online video campaign (Time2PrEP) to increase information-seeking about PrEP among NYC MSM. The videos were marketed through Facebook, Twitter, Instagram, Black Gay Chat, and Scruff and highlighted in publications including Towleroad, OUT Magazine, The Advocate, HIV PLUS Magazine, Manhunt Blog, and The Huffington Post. Individuals who watched one or more videos on www.hivbigdeal.org could complete a questionnaire in SurveyGizmo. We used Stata SE/14.1 and bivariate logistic regression to assess correlates of intention to get more information about PrEP after watching the video(s).

**Results:** The videos were viewed 52,586 times on YouTube, including 5,804 from www.hivbigdeal.org. From 11/2015-1/2016. The majority of the 156 survey participants identified as white (60%), male (94%), and gay (76%). Many (48%) said they definitely would seek more information about PrEP after watching the videos. Under one quarter (24%) had ever used PrEP, but they were more likely to want more information about PrEP (OR:2.34, 95% CI:1.08-5.06). One third (33%) said they would definitely start or continue using PrEP in the future, and this group had higher odds of planning to seek more information (OR:10.08, 95% CI:2.20-31.72). Those who would like their sexual partner(s) to use PrEP (66%) were also more likely to report information-seeking intentions (OR:6.32, 95% CI:1.30-30.77). African American participants (22%) were more likely to want to get more information about PrEP than participants of other races (OR:2.21, 95% CI:1.02-4.80).

**Conclusions:** The popularity of the Time2PrEP video series and self-reported intention to seek more information among viewers shows that this type of intervention is a promising tool for HIV prevention.

**WEPE0388**
**INTENTION TO LEARN MORE ABOUT PRE-EXPOSURE PROPHYLAXIS AMONG VIEWERS OF TIME2PREP: AN ONLINE VIDEO CAMPAIGN SERIES TO INCREASE INFORMATION-SEEKING AMONG MEN WHO HAVE SEX WITH MEN IN NEW YORK CITY**

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**Background:** In New York City (NYC), men who have sex with men (MSM) accounted for more than half of 2,718 newly-identified HIV infections in 2014. Despite the efficacy of pre-exposure prophylaxis (PrEP) for HIV prevention, in New York state (where half of people living with HIV are insured through Medicaid) only 1,330 people filled Medicaid prescriptions for PrEP from 7/2014-6/2015. Barriers to uptake include stigma and lack of information. Online video-based interventions have effectively increased knowledge and behaviors among MSM and are a promising avenue for promoting critical thought and follow up.

**Methods:** We conducted a focus group study (FGs; n=32) and brief demographic surveys to conduct a informal social network-based PrEP intervention for TW in Peru. FGs lasted 90-120 minutes and followed a semi-structured format (themes probed: socialization, social network formations, acceptability and preference for intervention methods). Audio files were transcribed verbatim and analyzed via an immunization crystallization approach using Dedoose (v.6.1.18).

**Results:** Among TW (mean age: 29 years) 16% reported prior knowledge of PrEP including, participation or knowing a previous participant in HIV prevention trials in Peru. Across FGs medical and research mistrust emerged as key, multidimensional and interrelated barriers to PrEP acceptability including:
1. Mistrust of health care systems and providers.
2. Wariness of research focused on TW.
3. Suspicions of PrEP efficacy, and
4. Fear of potential adverse effects.

**Conclusions:** Perceptions of the rationale for and conduct of biomedical HIV prevention research may have unintended consequences for PrEP acceptability among Peruvian TW. Mistrust of medicine, clinical research, and public health systems underlie narratives of resistance to PrEP as an HIV prevention strategy. Efforts to increase community involvement in different biomedical health services from health research are needed to combat existing mistrust, fortify relationships with TW communities, and facilitate the successful implementation of biomedical HIV prevention strategies with this population.
**WEPEP390**

"YES, I WOULD LIKE TO USE THEM, BECAUSE SEX IS MY WORK": AWARENESS OF AND WILLINGNESS TO USE PREP AND PEP AMONG FEMALE AND MALE SEX WORKERS IN MOMBASA, KENYA


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Background: Pre- and post-exposure prophylaxes (PreP and PEP) effectively reduce HIV infection, yet PreP, though recently approved by Kenya's Ministry of Health, is not yet available in public health facilities and PEP is underutilized in Kenya. We explored awareness of, willingness to use, and utilization of PreP and PEP among female and male sex workers (FSWs and MSWs) in Mombasa, Kenya.

**Methods:** We conducted in-depth semi-structured interviews with 25 FSWs and 25 MSWs recruited from eighteen bars/clubs in Mombasa. Of those who self-reported being HIV-negative (21 FSWs; 23 MSWs), we asked about their awareness of, willingness to use, and use of PreP and PEP. Interviews were transcribed, thematically coded, and analyzed using Dedoose.

**Results:** Awareness of PreP and PEP was low overall, with MSWs slightly more aware than FSWs. PEP utilization was also low for both FSWs and MSWs. None of the participants reported use of PreP. However, after learning about PreP and PEP in the interview, most sex workers expressed that they were very willing to use them, with greater willingness among FSWs than MSWs. Primary reasons among those willing to use were: to prevent HIV infection consistently with clients, uncertainty of number of clients per night, and self-protection. In addition, participants expressed willingness to use PEP if they believed they had put themselves at risk of HIV infection because of condom breakages and/or non-use with their clients. On the other hand, concerns for potential negative side effects was a barrier described by all participants interested in PreP and PEP. Yet, willingness to use PEP was not affected by the negative side effects among participants who had used PEP previously, citing the need to prevent HIV infection.

**Conclusions:** FSWs and MSWs expressed a general lack of awareness but a marked willingness to use PreP and PEP, if and when it becomes available. PEP underutilization, despite its availability, was due to lack of awareness rather than unwillingness. These findings point to the urgent need for increased availability and targeted PreP and PEP education and promotion for FSWs and MSWs in Kenya.

**WEPEP391**

EXPERT PERSPECTIVES ON PREP USE DURING PREGNANCY: IS PREP READY FOR IMPLEMENTATION?

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**Background:** Pregnant women in high HIV prevalence settings are at risk for acquiring HIV. Pre-exposure prophylaxis may significantly decrease infection rates in HIV-uninfected pregnant women but has yet to be programmatically implemented on a large scale. Our project evaluated how a diverse group of key international stakeholders weighed biologic, social/cultural, and ethical value trade-offs in the possible implementation of PreP in pregnant women.

**Methods:** Global representatives from HIV policy, research, treatment, and implementation were identified from WHO, NIH, PEPFAR, USAID, CDC, Ministries of Health, and clinical and research facilities. Semi-structured, individual interviews were conducted with 25 representatives from 7 countries using a standardized guide, were recorded, and transcribed verbatim. Transcripts were systematically coded using a constant comparative approach. Themes related to barriers and facilitators of PreP implementation in pregnant women were identified.

**Results:** Expert opinions were mixed regarding whether PreP was ready for implementation during pregnancy. Those who supported immediate PreP implementation emphasized urgency to prevent HIV and considered potential fetal risks to be outweighed by known harms for women and infants should they acquire HIV. Experts noted varying PEP implementation believed fetal safety and PreP adherence should be better defined prior to implementation. Experts noted concerns regarding who should be offered PreP, and felt that women's ability to accurately characterize their own HIV risk and HIV stigma would obstruct acceptance of and adherence to PreP. Some feared that clinician attitudes and beliefs about sexual behaviors during pregnancy, combined with diminished autonomy and power for women in patient/provider and women/male relationships, could pose a significant barrier. Experts also raised a number of concerns related to the distribution of scarce resources and the prioritization of PreP over ARVs for treatment. Potential facilitators identified included improved motivation and uptake of medical interventions during pregnancy, education and outreach with women, partners, providers and communities to improve acceptance and knowledge, and the development of clear guidelines and infrastructure.

**Conclusions:** Delivery of PreP in pregnancy could avert HIV infections in a vulnerable population but will require addressing potential barriers to successful implementation including concerns regarding safety, resource allocation, stigma, and identifying the appropriate target population.

**WEPEP392**

GETTING PREPARED TO OFFER PREP TO YOUNG WOMEN

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**Background:** Adolescent Girls and Young Women (AGYW) aged 16-24 are twice as likely to get HIV infection than their male counterparts due to socio-economic factors and gender disparities, including challenges in negotiating safer sex methods such as condoms. WHO has recently recommended PreP for all people at substantial risk of contracting HIV. In Zimbabwe, this includes AGYW. However, questions remain about the acceptability of PreP among AGYW, and how to best to implement and ensure adherence among those who use it.

**Methods:** Two consultations were held at the SHAZ! “HUB”, a youth drop-in centre offering comprehensive SRH/HIV services, with AGYW (n=30, age 16-26) involving questions about the acceptability, uptake and adherence of PreP among AGYW. English language transcripts were thematically analysed using participatory methods.

**Results:** Most participants were unaware of PreP as an HIV prevention option. Once PreP was explained, they expressed enthusiasm for using the method - as it would allow them to take ownership of prevention efforts and they would be able to use the method discreetly. However, when researchers showed participants the pills and bottle they come in, concerns were expressed about taking HIV drugs as prevention, and the fear that if they were seen taking these pills people would suspect they were HIV positive. They expressed a desire to repackage and otherwise disguise pills for greater confidentiality. Participants also suggested that PreP be offered in private, safe places like the HUB or other youth friendly environments. Adequacy issues were discussed. Participants taking oral contraception reported they would take them the same time as their contraceptive pills. Others discussed potential challenges with adherence such as living with family members who do not know they are taking the pills, to remembering to take them, and starting and stopping when they have or do not have partners.

**Conclusions:** AGYW are enthusiastic about the prevention option offered by PreP. However, attention must be paid to packaging and acceptable service delivery methods to ensure confidentiality. Given that PreP offers the only female controlled ARV based prevention option, it is critical that programs respond to the specific needs of AGYW in roll-out.

**WEPEP393**

EXPERIENCES WITH LONG ACTING INJECTABLE (LAI) CABOTERGAVIR (CAB) AS PREP: A QUALITATIVE STUDY AMONG MEN PARTICIPATING IN A PHASE II STUDY (ECLARD) IN NEW YORK AND SAN FRANCISCO

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**Background:** Pre-exposure prophylaxis (PreP) has been found to be efficacious in preventing HIV, with US national guidelines recommending its use in higher risk populations. Adherence challenges with oral PreP have stimulated interest in alternate modes of administration.
Background: Women who inject drugs experience heightened vulnerability to HIV due to overlapping drug-using and sexual networks and engagement in sex work. In Kenya, where injection drug use is a growing public health concern, offering pre-exposure prophylaxis (PrEP) could be an effective HIV prevention tool. However, despite Kenya being one of the first African countries to approve PrEP for HIV prevention, little is known about how gender and the social context of drug use may shape willingness to adopt such interventions in this setting. To identify potential opportunities and barriers to PrEP adoption among women who inject drugs, we qualitatively explored perceptions of PrEP delivery mechanisms, including oral antiretroviral medications (e.g., Truvada®), vaginal rings, and microbicide gels.

Methods: We drew from a mixed methods study of injection drug use and HIV risk in Kisumu, Kenya. In 2013-2014, 151 men and women who reported recent injection drug use completed surveys assessing sexual and drug-related risk behaviors. This analysis draws on qualitative interviews completed by a subsample of 17 female participants. Semi-structured interviews explored reproductive health topics including perceptions, knowledge, and acceptability of various PrEP methods.

Results: Participants’ average age was 26 years (range: 20-35) and half were already HIV positive. The majority expressed a general lack of awareness of PrEP. After explaining PrEP methods, participants voiced a mixture of interest, uncertainty, and mistrust. While acceptability of oral PrEP was generally high, a few reported increased risk behavior during their participation in the trial. Participants expressed the need for guidelines to assist patients in choosing when to start, stop and/or transition between oral PrEP and LARC.

Conclusions: Laser ablation with copper (LAI) was seen as preferable to oral PrEP among men in this Phase II study. Further research is needed on LARC among women and in other settings.

WEPE0396

PROMOTING ADHERENCE TO ANTIRETROVIRAL THERAPY (ART): A CHALLENGE FOR CLINICIANS

Methods: We conducted 30 in-depth interviews including 26 trial participants (18 MSM and 8 heterosexual men) and 4 clinical providers in a Phase II study. Two focus groups and 1 in-depth interview were held to assemble a literature review, develop an adherence intervention manual, and frame medication adherence discussion for the focus group. Subsequently, the intervention manual was refined and an intervention pilot was conducted. Data collected were analyzed using qualitative content analysis.

Results: Almost all participants experienced some level of side effects associated with LARC, mostly temporary injection site soreness. Yet, all reported being satisfied and interested in continuing LARC. Participants described the convienence of LARC and perceived advantage/disadvantages in comparison to daily oral PrEP. Interviews were audiorecorded, transcribed, coded and analyzed using thematic content analysis.

Conclusions: LAI was seen as preferable to oral PrEP among men in this Phase II study. Further research is needed on LAI CAB among women and in other settings.

ADHERENCE TO ANTIRETROVIRAL THERAPY, INCLUDING WHEN USED AS PREVENTION OR FOR CHEMOPROPHYLAXIS

WEPE0395

INCREASING THE UPTAKE OF POST EXPOSURE PROPHYLAXIS (PEP) BY RAPY SURVIVORS IN GHANA: THE ROLE OF THE GHANA POLICE SERVICE

Background: Survivors of GBV including rape and defilement experience physical and emotional trauma. In Ghana, most rape and defilement cases are not reported to the police. For cases that are reported, police referrals to health facilities are mainly for establishing that a crime has been committed, with no consideration for access to Post Exposure Prophylaxis (PEP). Late reporting of cases to health facilities makes it almost impossible to administer PEP. The Police Service records between 280 and 376 rape cases yearly, with an average of 1100 defilement cases yearly nationwide. However, referrals of survivors of sexual abuse for PEP services from 2010-2012 represented only 5.79%, 5.47% and 6.39% respectively of the total cases reported. Timely reporting of sexual abuse and empowerment of police in availing survivors with PEP services are essential to avoid HIV transmission and unwanted pregnancies.

Description: The Ghana Police Service AIDS Control Program with support from UNFPA held workshops for 190 police personnel in 6 Police Regions. Participants learned about the vital role of police in ensuring rape/defilement survivors are offered the lifelines of PEP. Emphasis was laid on promoting community involvement in timely reportage of sexual abuse. Participants agreed on roles of the various police units and developed action points and monitoring systems for increasing PEP referrals. The police held meetings with community leaders and engaged local radio stations to educate communities on the need to protect rape/defilement survivors by facilitating access to prompt medical attention. Investigators and community members agreed on surveillance and reporting systems to ensure that survivors received timely and appropriate medical attention.

Lessons learned: Police returns (monitoring) indicated a sharp increase for survivors accessing PEP services from 6.39% in 2012 to 24.25% in 2013 and 27% in 2014. Notwithstanding these achievements, it was observed most of the perpetrators of the abuses were close relations of survivors, resulting in fear that reporting to the police might attract harsh punishments and affect family cohesion.

Conclusions/Next steps: Engaging the police in public education enhances uptake of PEP by rape/defilement survivors. Continuous police/community partnerships in addressing GBV prevention and management will increase access to PEP by survivors.
Methods: We conducted a cross-sectional study of medication adherence with an international convenience sample of 1,812 PLHIV attending clinics in Canada, Namibia, Puerto Rico, Thailand, and the United States. We categorized respondent medication adherence into None (0%): Low (1-60%); Moderate (61-94%); High (95-100%) levels based on self-report. Thereafter, controlling for age, sex assigned at birth, education, and ability to pay for care, we used a stepwise multinomial logistic regression to investigate the predictive importance of 13 measures including depression, stressful life events, chronic disease self-efficacy, and perceived stigma.

Results: Using bivariate analysis, we found that the mean scores of all 13 scales/indices differed by adherence category and were correlated with one another. In the stepwise model, adherence self-efficacy, depression, stressful life events, and perceived stigma were significant predictors of medication adherence, controlling for race, sex assigned at birth, education, and ability to pay for care. For every one point increase in the chronic disease self-efficacy score, the odds of being in the None, Low, or Moderate adherence category were 5%, 6%, and 3% lower respectively compared to the High category. Further, every additional stressful life event increased the odds of being in the None or Low category by 5% compared with the High category. Among the demographic variables which were forced into the stepwise model, adherence self-efficacy, depression, stressful life events, and particularly the latter, routinely, may have the greatest benefit in distinguishing those patients who may require additional support.

Conclusions: Clinicians need tools to identify those PLHIV who may find maintaining medication adherence a struggle. Given that most clinicians have limited time with the patient, these results suggest that asking about self-efficacy, depression, stigma, and stressful life events, and particularly the latter, routinely, may have the greatest benefit in distinguishing those patients who may require additional support.

WEPE397 ANTIRETROVIRAL THERAPY INTERRUPTION AMONG PEOPLE WHO USE DRUGS IN A SETTING WITH A COMMUNITY-WIDE HIV TREATMENT AS PREVENTION INITIATIVE

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Background: HIV Treatment as Prevention (TasP) programs seek to promote antiretroviral therapy (ART) access and optimal adherence (≥95%) to prevent viral suppression among people living with HIV (PLHIV) and prevent the onward transmission of HIV. ART interruptions (defined as ≥30 consecutive days without taking ART) remain more common among people living with HIV (PLHIV) who use drugs and undermine the effectiveness of TasP. This study was undertaken in a setting with a community-wide TasP initiative to examine individual, social, and structural influences on ART interruptions among PLHIV who use drugs.

Methods: Semi-structured qualitative interviews were conducted with thirty-nine individuals recruited from an ongoing prospective cohort study comprised of PLHIV with histories of drug use in Vancouver, Canada. We identified participants who had experienced treatment interruptions (defined as ≥30 days without refilling an ART prescription) through a linkage with a local HIV/AIDS treatment registry. Data were analyzed using deductive and inductive approaches, and interpreted by drawing on the concept of structural vulnerability.

Results: While study participants positioned ART interruption events as the result of “treatment fatigue,” our analysis of participant accounts revealed underlying individual, social, and structural factors as primary drivers of these events, including: (1) prior adverse ART-related experiences among those with long-term treatment histories (≥15 years) who transitioned to more complex ART regimens; (2) experiences of social isolation related to structural vulnerability (e.g., stigma, colonialism) led to depression and undermined motivation to adhere to ART regimens; and, (3) disruptions to daily routines and breakdowns in the continuity of HIV care stemming from events that increased structural vulnerability (e.g., residential eviction, incarceration).

Conclusions: These findings demonstrate the importance of comprehensive structural reforms (e.g., housing interventions, drug policy reforms) and targeted interventions across the continuum of HIV care to optimize ART adherence among drug-using PLHIV and maximize the individual and community health benefits of TasP.

WEPE399 RISK COMPENSATION: CONCEPTUALISATION, ASSESSMENT AND MITIGATION

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Background: Voluntary medical male circumcision (VMMC) in young men is an important component of national HIV prevention programmes, given its protective effect in the heterosexual transmission of HIV. Concerns have been raised that circumcised men will increase their sexual risk behaviours following circumcision as a result of lowered perceptions of HIV-risk. This possibility of risk compensation has the potential to reverse the public health benefit of VMMC. Accordingly, this study documented sexual practices of circumcised (n=616) and uncircumcised (n=589) learners in 42 mixed sex secondary schools over a 12 month period in Vulindela, KwaZulu-Natal who were targeted by a national department of health VMMC campaign.

Methods: During the VMMC campaign (March 2011 to February 2013) 5165 learners were circumcised and 5923 refused to be circumcised. We randomly selected participants for each cohort from March 2012 until May 2013. Study participants aged 16 to 24 years were interviewed at baseline, 6 months after baseline and at 12 months. Mixed effect models were used to account for the longitudinal data and the clustering of learners in schools.

Conclusions/Next steps: Because of their substance use and stigmatization, these South African women experienced barriers to ART initiation and adherence. Comprehensive HIV treatment services that address structural barriers and include gender-based interventions with a focus on substance use as a comorbidity within the HIV treatment cascade are essential. HIV prevention programs targeted at key populations need to adopt a holistic approach in order to reach the UNAIDS 90-90-90 treatment target.
EMERGING APPROACHES FOR COMBINATION HIV PREVENTION

WEPE0400
EXPERIENCES OF ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) PARTICIPATING IN AN INTEGRATED COMBINATION OF EVIDENCE-BASED PROGRAMME IN RESOURCE CONSTRAINT SETTINGS, SEDIBENG AND ORANGE FARM IN GAUTENG PROVINCE

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Background: HIV risk is a formidable concern for Adolescent Girls and Young Women (AGYW) in South Africa, with the highest number of estimated new HIV infections happening among AGYW aged 15-24 years (Shisana et al, 2014). Over the years, research data suggest limited effectiveness of stand-alone HIV-prevention programmes for AGYW, leading to arguments for economic strengthening and HIV prevention education combination prevention approaches which interrupts the pathway to HIV infection and promotes protective, risk reduction, and opportunity opening behaviors (Cluver et al, 2014). Despite these calls, the efficacy of combination programmes in low resource constrained settings, particularly in semi-urban and informal settlements, is shrouded with limited evidentiary basis as they remain under-tested. The goal of this study is set to explore the perceptions of AGYW on their experiences of participating in an integrated combination programme.

Methods: Utilising a qualitative approach and a collective case study design, semi-structured one-on-one interviews are being conducted with 25 participants that were sampled from 7% AGYW based at Community Based Organisations in Sedibeng and Orange Farm in Gauteng province who are participating in HIVSA’s combination programme. Non-probability purposive sampling and simple random sampling procedure of probability sampling, respectively, are being used to select study participants.

Results: The research allows “relevant” and “information rich participants” to share their experiences. Emerging data obtained from AGYW after a year of participating in an combination programme indicate that there is strengthened building of skills leading to HIV testing, uptake of treatment and care services; as well as change of Knowledge and Attitudes related to HIV risk perception. However, AGYW are re-porting no success in opening of savings accounts and in establishing linkages that enhance their entrepreneurial and employability capacity. Issues of reach, accessibility, acceptability and effectiveness are also being explored and recommendations for replication are being made by participants.

Conclusions: Outcomes from the qualitative assessment have potential to add to a body of evidence important for fine-tuning, contextualizing and strengthening the efficacy of combination approaches in HIV prevention and empowering AGYW sustainably in disadvantaged socio-economic contexts. The practicality, synergistic effects and barriers of combining HIV and economic strengthening programming require more specific research.

PREVENTION WITH HIV-POSITIVE PEOPLE

WEPE0402
QUALITATIVE FORMATIVE RESEARCH TO REFINE A THEORY-BASED MULTI-LEVEL SEXUAL RISK REDUCTION INTERVENTION FOR HIV-POSITIVE MSM IN INDIA

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Background: Studies from India have indicated high levels of sexual risk among HIV-positive MSM (HIV+MSM) and thus the need for effective/culturally-appropriate interventions. Based on the Social-Personal Model and our previous studies, we designed a multi-level (individual and MSM community levels) intervention for HIV+MSM to promote safer sex and to promote acceptance of HIV+MSM among MSM communities. We conducted a qualitative formative research among MSM to understand their perspectives and to get inputs on the intervention content and implementation.

Methods: In 2015, we conducted five focus groups and in-depth interviews with a total of 17 HIV+ MSM and 20 HIV-negative people in known status MSM in urban/rural settings in Tamil Nadu, India. Using NVivo-10, narrative thematic analysis was using the techniques of framework analysis and grounded theory.

Results: Participants identified several barriers to safer sex among HIV+MSM: discrimination towards HIV+MSM within MSM communities and from the society, non-disclosure of HIV status to friends/partners, and challenges in sexual commu-nication/negotiation skills. Facilitators of safer sex such as supportive friends/partners and personal resolution to practice safer sex were also reported. Discussions revealed that HIV-negative MSM disapprove of sexual activity of HIV+MSM even if they reported condom use. HIV+MSM were concerned about the location of the

WEPE0401
IMPACT OF COMBINATION PREVENTION APPROACHES ON HIGH-HIV PREVALENCE IN FISHING COMMUNITIES: A CASE OF SIGULI ISLANDS, NAMAYINGO DISTRICT, EAST CENTRAL UGANDA

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Background: In 2009, combination HIV prevention was recommended by PEPFAR as an essential component of a balanced response to the global HIV epidemic. Combination HIV prevention defined as “Combining quality biomedical, behavioral, and structural interventions to craft a comprehensive prevention response to target-ed subpopulations with mutually reinforcing interventions.” Fishing communities are known to be at higher risk of acquiring HIV infection in many sub-Saharan African countries. STAR-EC, an eight-year district-based project funded by USAID and implemented by JSI and its partners, supported integrated outreach to fishing island communities from April 2010 to Oct 2015.

Description: Quarterly integrated combination prevention service delivery out-reaches were conducted to the Siguli Islands, an archipelago of 13 islands in Lake Victoria. Services included HIV testing and counseling (HTC), voluntary medical circumcision (VMMC), family planning, malaria treatment, TB diagnosis and treatment, chronic HIV care, condom education and distribution, risk-reduction interven-tions, and dissemination of IEC materials. The program used multidisciplinary teams of health workers and trained 345 village health teams and 216 condom peer edu-cators to deliver services in static health facilities and mobile community outposts.

Lessons learned: During the period of April 2010 to Oct 2015, 22,315 individuals re-ceived HTC; 1,219 people, including 251 pregnant and lactating mothers who started on antiretroviral therapy (ART), 6,200 males were circumcised; 107 TB patients completed treatment, 1,444 clients received sexually transmitted infection treatment; and 611,077 condoms were distributed. This archipelago has experienced a significant reduction in HIV positivity, from 19% in 2010 to 4.8% in 2015, steady progress toward the goal of “zero new HIV infections.”

Conclusions/Next steps: Combination HIV prevention approaches help reduce HIV transmission in high-prevalence pockets. These approaches should be adopted by community and facility health workers who provide HIV&AIDS services in high HIV prevalence communities.
individual-level counselling intervention (community-based organisation vs. other private settings) as they feared that other MSM might come to know their HIV status. Some MSM preferred ‘non-community’ counsellors as they believed that he/she will keep their HIV status confidential, while some others preferred peer/MSM counsellors. For intervention length, participants suggested about 3-6 individual sessions with a gap of two to four weeks. Decreasing the discrimination faced by HIV-positive MSM was noted as key to promote voluntary disclosure of HIV status and early engagement in care. Imparting messages to accept HIV+MSM within MSM communities through dramas and skits at community events and drop-in centres of community-based organisations were suggested for the community intervention.

Conclusions: Formative research helped us refine the intervention content (e.g., stigma, mental health support, preparing a tailored plan for safer sex/disclosure) and implementation strategies (e.g., type of counsellor, location, length) – thus improving the acceptability/robustness of the proposed multi-level intervention among HIV+MSM.

**WEPE0403 OUTCOMES OF A PILOT RCT TO PROMOTE SAFER SEX PRACTICES AMONG MSM LIVING WITH HIV IN TAMIL NADU, INDIA**

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**Background:** Studies have pointed out that MSM living with HIV (MSMLH) in India need an effective and culturally appropriate intervention to promote safer sex. As part of a multi-level intervention based on Social-Personal Model, we developed and tested a pilot individual level counselling intervention using motivational interviewing techniques to promote initiation and maintenance of safer sex among MSMLH.

**Methods:** We present preliminary analyses from a two-arm pilot randomized controlled trial (RCT) among 46 MSMLH (intervention: n=26; control: n=20) in Chennai, India. MSMLH in intervention group received 4-session tailored sexual risk reduction counselling (tailored risk reduction plan, mental health, sexual communication/negotiation). Participants completed assessment at baseline (pre-intervention) and at the end of 3 and 6 months. We developed a sexual risk score (based on condom use in anal sex, HIV status of sexual partners, number of partners, etc.) to assess sexual risk. Mixed-ANOVA analysis was conducted (SPSS-21), with intervention/control condition as between-subjects factor and time (baseline and endline) as within-subjects factor. Process evaluation included activities to assess intervention fidelity (e.g., observation of sessions by external evaluator) and post-intervention satisfaction survey.

**Results:** Participants’ mean age was 37.8 (SD=9.9) and monthly income was INR 8875 (SD = 5030). More than half self-identified as kothi (feminine/receptive) and the rest as double-deckers (versatile role), and two-thirds were never married. There were no significant differences in the baseline characteristics of intervention and control groups, except monthly income. Out of the 46 participants, 3 persons in the control group and 6 persons in the intervention group did not complete the endline survey. Intent-to-treat analysis showed the intervention group decreased their sexual risk compared to control participants (d= 0.29, indicating a small/moderate effect). When the 9 drop-out cases were excluded from the analysis, we obtained similar results. Process evaluation indicated high intervention fidelity and high-satisfaction among intervention group participants.

**Conclusions:** We found that our individual level counselling intervention to reduce sexual risk in MSMLH was feasible, acceptable, and had evidence of effectiveness equal to or greater than other HIV-positive interventions.

**WEPE0404 A SCHOOL-BASED CLINIC-LINKED SEXUAL REPRODUCTIVE HEALTH AND RIGHTS PROGRAM IN A RURAL HIGH-SCHOOL IN SOUTH AFRICA: PROGRAM OUTCOMES**

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**Background:** Adolescents in Sub-Saharan Africa carry a disproportionate burden of HIV disease and experience poor access to Sexual Reproductive Health and Rights (SRHR) services. Improving SRHR services for youth is a policy priority in SA and initiatives are planned to improve unmet needs. With the existing model of service delivery, school-health services are unlikely to be able to address these needs. This study reports on the outcomes of a school-based clinic-linked SRHR program for adolescents in a rural high-school.

**Methods:** The intervention comprising of an integrated school-health SRHR service that provided information, education, counselling and referral to a youth-friendly SRHR clinic or social protection services to 1258 learners in a co-ed school. The program was evaluated through routine program data and through surveys at baseline and post-intervention for the period May 2014- August 2015. Analysis univariate, bivariate analysis was undertaken using t-test and Chi square tests.

**Results:** Baseline demographic profile showed that 52% of learners were male and with an age- range of 14-26 years (µ±2.5 sd 2.5). Learners came from households that were mainly female-headed (70%), food insecure (33%) and relied on state grants (88%). Learners faced challenges of coming to school hungry (58%), feeling tired (42%) and unsafe when walking to school (20%). Gender-based violence and sexual coercion was higher in females compared to males (raped once I had sex:6.4% vs 1%) and ever forced to have sex (8.3% vs 4.6%). Between the baseline and post SRHR life-skills education intervention (89% learners completed), basic knowledge and attitudes changed significantly; condoms can prevent HIV (51%-68%), willing to have HIV test (66.4%-84.6%), sex with virgin prevents HIV (17.7%-9.5%) and STIS are treatable (28.6%-49.4%). Reported behavior improved; used condom at least once (23.6%-36.5%), sought care at friendly clinic (31.7 vs 50.5%). There was a 73% uptake of the school-based clinic linked SRHR service and 89% were self-referred. Of total learners, HCT uptake was 40%, VMMC by male learners (36%), pregnancy-rate per annum (14%).

**Conclusions:** These findings show that learners faced socio-economic, nutritional challenges, GBV and sexual coercion. The high uptake of services despite the challenges learners face, suggest that unmet needs amongst learners within these schools can be addressed through school-based clinic-linked adolescent-friendly services.

**WEPE0405 SEXUALITY EDUCATION IS TAKING HOLD: HOW AN INCREASING COMMITMENT TO CSE WILL REAP BENEFITS FOR HIV PREVENTION AND SEXUAL AND REPRODUCTIVE HEALTH**

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**Background:** Comprehensive sexuality education (CSE) aims to ensure that all young men and women gain the knowledge and skills to make conscious, healthy and respectful choices about relationships and sexuality. CSE is one of five key recommendations made by UNAIDS and the African Union to fast track the HIV response and end the AIDS epidemic among young women and girls across Africa. Good quality CSE that is accessed by all adolescents and young people remains a key input to combination prevention services that empower them to protect themselves from HIV, STIs and unintended pregnancies.

**Description:** UNESCO, with UNFPA, carried out a review of CSE implementation and coverage in 48 countries in 2015, through the analysis of existing resources and studies, assessing whether curricula meet international standards. The review also examines the evidence base for CSE and its positive impact on young people’s health outcomes. It takes stock of political support for CSE and factors that influence programme success such as CSE’s position within school curricula, the content covered, teacher training for classroom delivery, and partnerships with parents and communities.

**Lessons learned:** A majority of countries are now embracing CSE and actively strengthening its implementation at a national level through policy, curriculum or teacher training. Despite these efforts, gaps remain between policies and classroom implementation. Whilst many countries’ curricula meet basic international standards, most curricula need to be strengthened in terms of gender and rights and to address the needs of young people living with HIV. Adequate teacher training is
an essential component to quality delivery. The review found that where sexuality education is not fully compulsory or is extra-curricular, a large number of students will not reap the benefits.

Conclusions/Next steps: Evidence clearly shows that CSE contributes to HIV prevention and improves sexual and reproductive health and gender equality outcomes. As such, CSE is a critical enabler that should form part of national HIV and SRH programmes, and one that young people themselves repeatedly demand. Continued support is needed to ensure that gender and rights is better highlighted and to strengthen teacher capacity to deliver CSE. Ongoing advocacy will help hard-won gains take hold and grow.

WEPE406
EVALUATION OF THE IMPLEMENTATION AND RESULTS OF THE DANCE4LIFE SCHOOLS PROGRAM IN ARGENTINA
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Background: Since 2010, Fundacion Huesped and the Youth for Health Network have implemented the dance4life program in public schools. An evaluation was conducted assessing the results of the program to determine if predicted outcomes occurred, and drawing conclusions about the possible impact of results on the sexual and reproductive health of the youth.

Methods: A retrospective evaluation was conducted in 2014 by an external evaluator analysing program implementation at public high schools of the Buenos Aires Metropolitan Area from March 2010 to December 2013. A mixed-methodology (qualitative-quantitative), using validated tools and frameworks, was applied through self-reported surveys, semi-structured interviews and focus groups with students, peer educators, teachers, and staff.

A literature review of past reports and program-related documents complemented this. Interviews and focus group transcripts were analysed using a directed content framework for coding main themes. Quantitative data was analyzed using Excel.

Results: The program was implemented in an innovative and successful way, training over two thousand agents (change (youth facilitators) over a four-year period. The experiences reported were generally positive, its methodology being the most novel and attractive part. Youth participation in the execution of the program was a valuable point for all the stakeholders. Teachers and young people reported that one of the positive aspects was that it was an international program, demonstrating large global involvement. 93% of respondents answered correctly about modes of transmission. Knowledge in relation to contraceptive use also was high: 68% for the injectable form; 99% for the condom. Positive attitude changes were reported: respondents indicated changing a lot in their respect for PLHIV (72%) and their capacity for talking openly about sexuality (60%). 80% said they knew how to avoid having sex if not wanting to.

Conclusions: Although the dance4life program has had very positive results in almost all the variables, including greater awareness of sexuality and confidence in decisions about sex; there are issues that need to be addressed: project sustain ability ensuring lasting effects on school culture; health system integration to improve health outcomes. Having baseline and follow-up data is critical in order to compare changes in young people’s knowledge, attitudes, and practices before and after implementation.

WEPE407
SCALING UP COMPREHENSIVE SEXUALITY EDUCATION IN AFRICA: ARE WE WINNING THE QUALITY BATTLE?
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Background: Comprehensive Sexuality Education (CSE) aims to increase young people’s chances to form safe and satisfying relationships, prevent HIV, safeguard their sexual and reproductive health and wellbeing, and advocate for their rights to dignity and equality. As CSE gains momentum and interest at international, regional and national levels, governments in Eastern and Southern Africa (ESA) are increasingly putting in place measures to scale up school based delivery.

Methods: To assess the quality of CSE curricula and delivery, UNESCO commissioned a five country study (Uganda, Zambia, Lesotho, Malawi, Namibia) and used an in depth assessment tool (Sexuality Education Review and Assessment Tool (SERAT)) completed with key stakeholders (92). Key informant interviews were conducted with government officials (24), teachers (44) and learners (72) from selected schools and secondary data was obtained from national population based surveys.

Data was analysed using SERAT; charts were generated to show the strength of various features of the program.

Results: Interview and SERAT results across all 5 countries revealed moderate to strong curriculum content from 9-18 age ranges, and very weak to no content for the 5-8 year age group. Teachers’ inability to deliver due to lack of subject matter specialization and poor quality of teacher training in comprehensive sexuality education were cited as common challenges. This coupled with high pupil teacher ratio; high pupil textbook ratio; and poor linkages with health services were critical factors affecting quality of classroom delivery and the desirable outcomes for young people. Absence of a strong M&E system providing real time data on CSE delivery and outcomes was cited as a challenge.

Conclusions: To improve quality of CSE delivery, countries need to ensure that CSE starts early, is age appropriate; teachers are well equipped with content and facilitation skills to deliver using innovative methods and engaging health resource persons. Including CSE indicators in Management Information Systems is critical for tracking progress and quality of CSE delivery. As efforts to reach large numbers of young people escalate, it is critical to ensure that the CSE programs maintain quality, content, and delivery methods necessary to attain the desired outcomes.

WEPE408
ADVENTURE UNLIMITED: A PATHWAY TO CHILDREN HIV/AIDS EDUCATION
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Background: The Adventure Unlimited is the programme targeting children aged between seven (7) to 13 years, who most programmers overlook especially for HIV and AIDS awareness as they are considered young for some sexual oriented packages associated with such awareness. A moralistic defense is always given as this age group is seen as “innocent.” In the mid 90s the age group between five (5) to 14 years was called the window of hope as it was seen as free from HIV infection. With the change of scenario thus: all the below 25 years considered the HIV “generation” and the children below 15 years being the target of all sorts sexual practices including defilement need has arisen to give age-suitable sexual and reproductive health to this age group.

Description: The Adventure Unlimited is a nine session psychosocial and value based approach programme adopted from The Scripture Union that among other topics addresses; self-awareness, socialization process, family and friends as social units, reproductive and sexual awareness, social environment and other helpful human values. It is delivered in schools in a very relaxed environment using an enter-educate approach.

Lessons learned: From the facilitators reports YAZ has discovered that many children have been willing to disclose sexual abuse that has either happened to them or a friend and are willing to undergo counseling. The participants in the Adventure Unlimited sessions have been discussing reproductive and sexual matters, which society does not associate with this ‘innocent’ age. The programme is an eye opener and can be used as a good pathway to impart knowledge on HIV and AIDS in this age group which will develop into preventive skills before they grow into becoming sexually active.

Conclusions/Next steps: New infections can be controlled properly by reaching out to those below the age of 15years and build a value system with their socialization process so that they grow with a preventive awareness. This also helps in acquiring useful psychosocial life skills to deal with different risky situations in life.
WEPE409
ADRESSING TEACHERS' COMFORT LEVELS TO TEACH SEXUALITY EDUCATION: THE CASE OF SOUTH AFRICA
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Background: In South Africa the recent SACMEQ Data indicates poor levels of HIV knowledge among learners in schools (less than 40 %) whereas teachers’ knowledge levels are 100%. The gap of knowledge between learners and educators can be attributed to educators’ lack of capacity to transmit their knowledge and the conflict between the educator personal values and teaching of sexuality education/ life skills. Evidence show that effective Comprehensive Sexuality Education (CSE) consistently increases learners HIV knowledge and other health issues, delays the age of sexual debut, and increase their use of contraceptives including condoms.

Description: UNESCO in collaboration with UNFPA and the John Hopkins HC3 proj ect developed an online course on CSE to provide teachers with knowledge and skills to implement age appropriate, human rights and gender based comprehensi ve sexuality education in the classroom. 50 HIV and Life Skills District Coordinators as Master Trainers [13 Males and 37 Females ] from the Eastern Cape Department of Education (DoE)were trained through a 40 hour on line sexuality education course blended with values clarification exercises. The seven modules focused on: Sexuality; Adolescent Social and Emotional Development; Fertility, Pregnancy and Reproduction; Preventing STIs and HIV; Gender and Relationships. Knowledge assessments was done upon completion of each module, and teach backs facilitated to demonstrate how to deliver content in the classroom setting using scripted les son plans on sensitive topics.

Lessons learned: The average pass rate achieved by participants was 81% with an average of 11.7 % knowledge increase from prior to undertaking the course. 92% of the participants found that the online course was relevant and has increased their capacity to implement CSE in the classroom. Implementing an on-line course requires sufficient access to computers and internet connectivity and provides a safe space for participants to learn at their own pace.

Conclusions/Next steps: The on-line course on sexuality education provides an accessible resource that support teacher training through ICTs. DoE in the Eastern Cape intends to expand the on-line course to reach 850 teachers in 21 Districts through utilising 15 ICT Centres.

WEPE410
SCALING UP ACCESS TO SRH EDUCATION AND SERVICES IN ZAMBI: MISSION IMPOSSIBLE WITHOUT FAITH-BASED PARTNERS SAILI ALICE, MIWILI MUMBU, REMMY MOKONKA, YUSUF AYAMI, DYMUSS NYELITE INSTITUTIONS: UNESCO, ZINNO, ZAMBIA
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Background: The purpose of the project is to improve the sexual and reproductive health (SRH) outcomes of young people in Zambia through the national roll-out of comprehensive sexuality education (CSE) in schools and increased access to sexual and reproductive health services. Baseline data showed that only 25% of school learners scored 95 correct or higher on HIV and AIDS basic knowledge, that 77% of schools did not provide comprehensive life skills-based HIV and sexuality education, and that among 15 year olds, 12.4% of girls and 21.9% of boys had had sex.

Description: To ensure a successful national scale-up of the provision of CSE and access to SRH services, an intersectoral and comprehensive approach was used: curriculum development, teacher training, development of teaching and learning materials, strengthening of referral systems, mass media outreach, etc. all of which has required stronger coordination within the government spheres and in-country partners. However, the debate on children being taught sexuality education is a very sensitive and emotive issue, especially among the religious community. As one of the hurdles to successful implementation is community and parental resistance, the project teamed up with an inter-faith organization, ZINGO, who trained religious leaders on CSE, and facilitated the provision of parent-child communica tion on SRH. The dialogues on sexuality education have made parents and guardians aware of what is being taught in school, and has allowed parents and young people to discuss sexuality education in an open manner. The acceptance of the communities has in turn empowered schools to provide CSE and referrals.

Lessons learned: The partnership with ZINGO has provided a platform for dialogue with the religious community and created an opportunity to break religious and community barriers that impede the successful implementation of CSE. Building partnerships with civil society organizations works as a quick enabler for impactful implementation of CSE.

Conclusions/Next steps: The effective scale-up of a national programme, requires partnering with faith-based organisations, as integration and intersectoral collabora tion without taking into account the fears and resistance of communities, cannot succeed.

COMMUNITY-BASED APPROACHES, INCLUDING EMPOWERMENT, OUTREACH AND CULTURALLY APPROPRIATE SERVICE DELIVERY

WEPE411
TAKING STOCK OF THE KAMHLABA PROGRAM: MAKING ROOM FOR KEY POPULATIONS IN SWAZILAND'S HIV RESPONSE
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Background: Swaziland’s national HIV prevalence is 31% among adults ages 18-49. Female sex workers (FSW) and men who have sex with men (MSM) have 70.3% and 12.6% prevalence, respectively. The Swaziland National AIDS Programme (SNAP), President’s Emergency Plan for AIDS Relief, United States Agency for International Development-funded Health Communication Capacity Collaborative (HC3) embarked on the Kamhlaba program to reduce HIV among these populations. Objectives included development of evidence-based programs, strengthen ing HC3’s leadership and coordinating capacity, improving access to and quality of HIV cascade services for FSW and MSM, and strengthen FSW/MSM constituent-led networks to foster an enabling environment.

Description: In November 2015, external evaluators conducted a stock-taking ex ercise to assess strengths, challenges, and opportunities for Kamhlaba. They inter viewed government, community-based organizations, implementing agencies, do nors, service delivery providers, and a health care worker training institution. They analyzed existing data comparing age-disaggregated general population prevalence to FSW and MSM, and demonstrated the increased HIV burden among FSW/MSM. FSW below the same peak prevalence across time as women generally, though MSM have a similar prevalence trajectory over time as general population males, and contrast at ages 15-39 where MSM prevalence sharply increases.

Lessons learned: Kamhlaba program implemented size estimation and a “hotspot” venue mapping to identify gaps in the HIV cascade. HC3 established a formal relation ship with SNAP to jointly execute activities, including the national coordinating body - the Key Population Technical Working Group. A similar coordinating group was formed among MSM organizations, called the “Super Group”, to inform and plan interventions for MSM. Building upon the success of the MSM Super Group and capitalizing on regional FSW support groups, a FSW Group was formed by elected members from the regional support groups and meets monthly. Comprehensive mobile services are available to FSW/MSM in 15 hotspots including CD4 testing, sexual reproductive health/family planning and referral to ART, adherence and psychosocial support. Older MSM have tailored, separate interventions from younger MSM.

Conclusions/Next steps: Kamhlaba will scale-up and increase quality through Super Group engagement and outreach efforts to clinical providers. These nascent out reach efforts will grow into enhancing active linkages for care and treatment.
Description: It is against this background that the Swedish Workplace Programme developed interventions to reach out to and target long-distance truck drivers in South Africa, and Zimbabwe. The campaign in the 2 countries involved a Road-side Stop and Test Campaigns in South Africa and Zimbabwe in partnership with Scania group, Ministry of Transport & ILO.

Objectives of the Driver Road Safety and HTS campaigns:
1. Raising awareness on HIV & Wellness among long distance truck drivers.
2. Raise awareness on the importance of Road Safety to reduce Traffic accidents.
3. Offering Health Testing services to drivers at the stop and test sites.
4. Ensuring linkages to treatment, care and support for those tested where necessary.
5. Sensitisation on union social protection schemes.
6. Promote Wellness and healthy lifestyles.
7. Provide bumper check on vehicles stopped at the road side campaigns and issue a defects report where necessary.

Lessons learned: There is a need for continued awareness about HIV and Wellness among Truck drivers, Truck stops, toll plazas and border posts are convenient places to offer awareness and testing services for long-distance truck drivers. Provide syndromic treatment and HIV counseling at strategic points along major trucking routes to allow easy access to Health testing services, mobile clinics along trucking routes to provide STD treatment and counseling to truck drivers and sex workers.

Conclusions/Next steps:
1. Replicate along Transport corridor in Southern Africa to reach more drivers.
2. Complement the HTS programme with education activities in the surrounding community in order to reduce risky behaviours, encourage HIV prevention and early diagnosis, and opportunistic infections as well as early treatment.
3. Combining Road safety, car fitness and HTS resulted in increased uptake of HTS among Truck drivers.

WEPE0143 THE INTERPLAY BETWEEN HIV/AIDS COMPETENCE IN THE HOUSEHOLD AND COMMUNITY-BASED TREATMENT ADHERENCE SUPPORT FOR PEOPLE LIVING WITH HIV/AIDS IN SOUTH AFRICA

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Background: The size and scale of the HIV/AIDS epidemic compelled South Africa to respond to their human resource shortages by developing innovative means of delivering health care. In this respect, the HIV/AIDS epidemic was a catalyst for renewed focus on community health workers (CHWs). CHWs bring care closer to people living with HIV/AIDS (PLWHA) and their household environment. The social, ecological and individual-family-community models draw attention to the fact that the dynamic interplay with the household level should be taken into account, in order to study the impact of HIV/AIDS comprehensively. As community-based interventions to support PLWHA have largely ignored the social context in which they are implemented, the following research aim will be addressed: examining the way in which household dynamics hamper or facilitate the impact of community-based treatment adherence support.

Methods: During the participatory observations, 48 community based treatment adherence support sessions in patient’s houses were observed in a township on the outskirts of Cape Town, South Africa. Furthermore, 32 in-depth interviews were conducted with PLWHA, as well as 4 focus group discussions with 36 CHWs. By making use of Nvivo, the data was analyzed carefully in accordance with the Grounded Theory procedures.

Results: Despite the fact that the CHWs try to present themselves as not being openly associated with HIV/AIDS services, results show that the presence of a CHW is often seen as a marker of the disease. Depending on the HIV/AIDS competence in the household, this association can challenge the patient’s hybrid identity management and his or her attempt to regulate the interference of the household in the disease management. Moreover, the degree of HIV/AIDS competence present in a PLWHA’s household affects the manner in which the CHW can perform his or her job and the associated benefits for the patient and his or her household members.

Conclusions: This study draws attention to the importance of taking pre-existing dynamics in a patient’s social environment, such as the HIV/AIDS competence of the household, into account when designing community-based treatment adherence programs - in order to provide long-term quality care, treatment and support in the context of human resource shortages.

WEPE0144 BRIDGING THE GAP FROM PEDIATRIC ART TO ADULT ART FOR ADOLESCENTS THROUGH ART MENTORSHIP

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Background: Studies have shown that adolescents living with HIV on antiretroviral therapy (ART) often have lower viral suppression rates compared to both adults and younger children. This sign of treatment failure is mainly due to poor adherence as a result of inadequate support during the transition period from paediatric to adult ART. In addressing this problem AIDS Counselling Trust (ACT) came up with a project to support adolescents on ART through Community Based ART Mentors (CBAM) who are young adults who have been on ART for more than 5 years. The CBAM were trained in Treatment literacy, Adolescent Sexual and Reproductive and Basic Counselling so that they will be effective in dealing with adolescents on ART and be able to respond to respective developmental needs.

Description: The organisation collaborated with local health facilities in Dzivarasekwa and Dzivarasekwa Extension to refer adolescents who would have come to collect their medication to CBAM for ongoing support. The adolescents were given the option to choose the CBAM of their choice from a list that was readily available at the clinic. The project overall objective was to increase ART adherence from 65% to 100% for 150 adolescents in Dzivarasekwa by December 2015.

Lessons learned:
- Adherence to treatment increased to 95-100% for the 172 participating adolescents (93 girls; 79 boys)
- Drug fatigue due to being on treatment from infancy was cited as a contributing factor to lower adherence rate.
- The use of young CBAM proved to be an innovative strategy that enhanced the adolescent’s self-belief and esteem as they had someone who faced similar challenges but managed to survive and still look healthy. Some have established families.
- HIV-positive adolescents need factual information on how to establish intimate relationships, sexual and reproductive health.

Conclusions/Next steps: The concept of bridging the gap from paediatric ART to Adult ART for Adolescents through ART mentorship can be adopted by all Health Care providers as a strategy to enhance adherence. For increased efficacy of the project additional ART support services like viral load testing and management of side effects should be available, accessible and affordable.
focus group discussions (FGDs) with community members were undertaken in three sites of uMungundlovu District from October 2014 to May 2015. uMungundlovu has a high incidence of HIV-related TB, and public hospitals and clinics service predominantly overcrowded, marginalised Zulu communities. Transcripts were coded in NVivo version 10 and analysed using qualitative content analysis. Findings were member-checked and discussed with community advisory teams for validity.

Conclusions: In an environment with high pill-burden, pill taking for potential prevention appears secondary to treatment for lifelong illness or disease symptoms, especially pain-related symptoms. While the use of local herbalists is common, trust remains an issue in all spheres of health seeking, and transparent guidance on drug content and efficacy is desired. Cleansing practices may affect drug-efficacy, and healthcare providers should discuss optimal timing for cleansing and potential effects on drug action with client.

WEPED16

WORK-RELATED CORRELATES OF ATTITUDES TOWARD ENGAGEMENT IN HIV PREVENTION AMONG VILLAGE DOCTORS IN CHINA

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Background: Most of China’s HIV/AIDS cases are found in the rural areas. China’s Village doctors have played a significant role in improved access to health care for people living with HIV/AIDS (PLWHA). Their attitudes toward engagement in HIV prevention can have a direct impact on health and welling of PLWHA. Existing literature suggests the association of quality of working life, job satisfaction and burnout with engagement. However, there is a lack of rigorous academic research on village doctors’ attitudes towards HIV prevention and their work-related factors, which can be reflected in poor policy-making and unjust distribution of resources. The purpose of the current study is to examine the work-related correlates of attitudes toward engagement in HIV prevention among a sample of village doctors in China, after controlling for basic demographic variables and others’ attitudes. (XL1)

Most of people living with HIV/AIDS (PLWHA) in China are rural residents.

Methods: A self-administered cross-sectional survey of 230 village doctors 20 to 74 years of age was conducted in Beihai, Guangxi, China. Measures included their demographics, work-related instruments (quality of working life, job satisfaction, and burnout), attitudes toward engagement in HIV prevention and others’ attitudes. We correlated burnout with job satisfaction and quality of working life. We also performed multiple regression analysis using work-related factors, others’ attitudes, and basic demographic information.

Results: Scales showed relatively good internal reliability among the sample of village doctors with Cronbach’s alpha ranging between 0.68 and 0.88. Correlation analysis showed that burnout, quality of working life, and job satisfaction were significantly correlated with each other (p < 0.0001). Multiple regression analysis indicated that attitudes of village doctors toward engagement in HIV prevention were significantly associated with work burnout (β = -0.3, p < 0.05) and others’ attitude (β = 0.24, p < 0.0001).

Conclusions: Exploring attitudes toward engagement in HIV prevention among village doctors is especially important, since they are closely related to the health and well-being of PLWHA in the rural communities in China. HIV prevention intervention efforts should help village doctors to prevent work burnout through enhancing their working conditions, and general well-being.

WEPED17

PILL TAKING IN A RESOURCE-POOR SETTING IN SOUTH AFRICA: IMPLICATIONS FOR PRACTICE

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Background: Since 2011 isoniazid preventive therapy (IPT) has been offered widely to prevent tuberculosis (TB) disease among people living with HIV (PLWH) in uMungundlovu District, South Africa. Clients who accept IPT take a daily tablet for six months, often in addition to antiretrovirals and other medications. In light of existing pill-burden and the historical mistrust of Western medical intervention in the region, efforts worked with Zulu communities to learn more about healthcare seeking, explanatory models of TB infection and disease, and the experience of IPT and pill-taking in general.

Methods: This study was embedded within a larger research project on the effectiveness of isoniazid. Utilising a hybrid of community-based participatory and ethnographic methods, nine individual interviews with PLWH offered IPT and eight group discussions (FGDs) with community members were undertaken in three sites of uMungundlovu District from October 2014 to May 2015. uMungundlovu has a high incidence of HIV-related TB, and public hospitals and clinics service predominantly overcrowded, marginalised Zulu communities. Transcripts were coded in NVivo version 10 and analysed using qualitative content analysis. Findings were member-checked and discussed with community advisory teams for validity.

Results: For many participants, sickness is represented solely by a physical manifestation of pain. Data suggest a general uncertainty about which health systems are trustworthy (Zulu versus Western healing practices, public versus private health systems). There is also confusion about the quality of pharmaceutical interventions due to unregulated pricing by chemists and street vendors. Lifelong treatment, e.g. antiretrovirals or blood thinners, may take precedence over short-term or presumptive regimens. Daily tablets may necessitate cleansing of the gut from the build-up of long-term medications through vomiting practices and the use of suppositories.

Conclusions: In an environment with high pill-burden, pill taking for potential prevention appears secondary to treatment for lifelong illness or disease symptoms, especially pain-related symptoms. While the use of local herbalists is common, trust remains an issue in all spheres of health seeking, and transparent guidance on drug content and efficacy is desired. Cleansing practices may affect drug-efficacy, and healthcare providers should discuss optimal timing for cleansing and potential effects on drug action with client.
WEPE419

DOES INTEGRATION OF TARGETED INTERVENTION PROGRAM WITHIN COMMUNITY ORGANIZATIONS AFFECT OUTREACH AND FUNCTIONALITY?

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Background: Avahan phase-III program in India focuses to reduce vulnerabilities among FSWs as well as MSM and make the Community Organizations (COs) strong and sustainable. Program focuses on (i) social protection (social entitlements and schemes) (ii) financial security, (ii) social protection (social entitlements and schemes) (iii) financial security, (access to formal financial sources), (iii) safety, security, justice and justice, and (iv) institutional development. The earlier phases of Avahan program in India has led to some COs functioning with the Targeted Intervention (TI) program, and some without. This study assesses the differences of functioning betweenTI based COs and non-TI based COs.

Methods: Data were collected from 87 Community Organizations in India on CO level characteristics from May to July, 2015 as part of Avahan phase-III evaluation survey. This study uses data from 75 FSW based COs. Bivariate analysis between various profile and CO functioning indicators, and TI versus non-TI based COs was performed.

Results: Outreach of TI based COs was better than that of non-TI based COs, in terms of the number and percent of FSWs who registered as members at the CO. Only 19% COs reported having nodal crisis response teams in all sites: 96% COs responded to violence incidents in less than 24 hours. A higher percentage of non-TI based COs had a help desk compared to TI based COs (76% vs. 54%, p=0.033). There was no significant difference between the TI and non-TI based COs (p>0.05) in; annual financial plan (89%), external auditing (91%), internal auditing (88%) and a sustainability plan (61%). Higher proportion of TI based COs reported that auditing was done compared to non-TI based COs (100% vs. 83%, p=0.009).

Conclusions: The TI based COs were able to reach a larger population which is an important factor for systematic capacity strengthening of COs. It may be more beneficial for the program to integrate COs and the TI program. Not only will this encourage collaboration between different aspects of HIV prevention and vulnerability reduction, it will also enable the COs to expand their outreach and services.

WEPE420

MECHANISMS FOR FAITH-COMMUNITY RESPONSE TO HIV: SURVEY OF TWO DECADES OF ENGAGEMENT WITH CASE EXAMPLES OF EFFECTIVE EXPERIENCE

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Background: A Fast Track approach calls for accelerated, more equitable and strategic delivery of services, along with advances on human rights issues, with the goal of ending AIDS as a public health threat by 2030. Community responses to HIV are an integral part of this strategy, however, they are not often integrated into national plans or sufficiently funded by domestic resources. UNAIDS estimates that to achieve Fast Track goals it will be critical to increase community-based services and advocacy (including investment for this). Evidence supports awareness that faith-inspired communities provide a range of HIV services, often filling gaps and serving key populations (as demonstrated in a 2015 special edition of The Lancet). These responses are often culturally (or religiously) appropriate. However, there is limited translation of knowledge about faith-specific community response into policy and planning.

Methods: We report on a systematic literature review and linked case study conducted as part of a UNAIDS Best Practice effort. The review assessed literature on the faith response to HIV/AIDS (international scale, 2000-2015). The case study assessed distinctive models of faith-community response to HIV/AIDS by collating findings from a survey, indepth interviews (25) and programmatic documentation. Case studies were selected based on assessment of their ‘effectiveness’ (demonstrating ‘good public health’ as well as ‘good theology’), and variation (geography, religion, and service type).

Results: We identify unique intervention models for effective engagement with faith communities. Cases include targeted engagement with key populations such as sex workers; adaptations of ART to including ‘blessing’ and religious ritual for increased uptake; community financing models through congregational emergency funds; community systems strengthening which improve linkage to care; and theological engagement with religious leaders leveraging their role as ‘key influencers’ for promotion.

Conclusions: We identify positive and negative experiences of engagement with faith communities (which translates into challenges and opportunities for future engagement). There is a major knowledge-translation barrier between information and experience of (faith) community response to HIV, and effective policy engagement. This barrier perpetuates a historic lack of integration of community response into national public health strategy and investment.

WEPE421

“WE MUST BE REALISTIC, A LOT OF YOUNG PEOPLE DO NOT ABSTAIN”: A QUALITATIVE STUDY TO UNDERSTAND THE EFFECTS OF TRAINING FOR CBO’S TO REACH YOUNG PEOPLE EFFECTIVELY

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Background: Developing interventions that target the right needs and take the context into account are essential for young people to have access to quality behaviour HIV prevention strategies and Sexual and Reproductive Health (SRH) education. Some programmes are mainly based on providing knowledge, without taking the broader context into account. Sometimes programmes are based mainly on moral values instead of facts and evidence.[1] Training of trainers, related to effective intervention development and implementation, could be an effective way to reach a large number of community-based organisations (CBO’s) and thus ultimately young people.


Methods: We scaled up a Training of Trainers pilot project in which trainers support CBOs in qualitative programming following the intervention mapping approach. The aim of this study is to understand the impact of this project. Forty seven local trainers working for civil society organisations from 12 African countries were trained. They supported 142 CBO’s in their countries in three years. For this qualitative study we analysed results of the training and support for 22 CBO’s in 3 different countries, through analysis of; 40 in-depth interviews, 13 quality assessments[1] and 11 monitoring visits.


Results: Interventions are adapted and improved. Supported staff report to increase meaningful involvement of young people, strengthen linkages with other actors around them, identify the importance to conduct a needs assessment and more effectively address stigma and discrimination and gender inequality. CBO’s implemented more activities to create demand among young people to access health services.

Conclusions: To fast track the HIV response and reduce other SRHR problems among youth, evidence of effective programming, who are culturally appropriate must be applied in practice on a large scale. From our project it is clear that working with a pool of trainers is an effective approach to support civil based organisations.

WEPE422

UNIFIED FACILITATION OF SERVICES TO REDUCE KEY POPULATIONS SOCIAL AND ECONOMIC VULNERABILITIES

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Background: Swasti is a health resource centre established in 2002 with a focus on achieving public health outcomes for those who are socially excluded and poor. Swasti had been implementing the Avahan Phase III initiative, supported by the Gates Foundation, across 84 community organisation in 5 states of India (Karnataka, Tamil Nadu, Andhra Pradesh, Telangana and Maharashtra). The Initiative has two major priorities. One is an individual level, to reduce vulnerabilities of HIV among female sex workers, MSM & Transgender community (which affect risks) and lack of knowledge, illiteracy etc. In order to overcome these challenges, Unified Help Desks (UHD) has been used set up and facilitators have been appointed in all the community organizations to facilitate social protection and financial services. They also provide support when crises cases are reported. These facilitators will be the face of the
A separate UHD phone number has been provided to each of the UHD and this number has been popularized with the key populations to dial in for any services and products related to social protection, financial services and crisis related incidents. This approach has been very successful and has provided a wonderful way to Sex workers, MSM & TG Communities to access many key services. **Lessons learned:** Multiple services need to be provided by a community organization to the communities that are served by it, and a UHD helps to channelize all these services by providing a platform for the community. The easy accessibility and low cost of services truly embodies the spirit of “All for One, One for All.” **Conclusions/Next steps:** Within six months of establishment, the UHDs have been able to generate 39,632 applications on social protection and financial products. Apart from these, 4,983 cases of crises have been resolved among female sex workers. This confirms that Unified Help Desk approach is a new phenomenon and a sustainable module for providing services to the most marginalized communities.

**WEPE424**

**STOPPING THE VIOLENCE BEFORE IT STARTS: EVIDENCE FROM A GBV PREVENTION PROGRAMME IN MALAWI**

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**Background:** A growing body of evidence from sub-Saharan Africa highlights the interface between gender-based violence (GBV) and HIV infection. Recent studies indicate high levels of school-based violence in Sub-Saharan Africa. Predominantly, girls and women are viewed as victims, with boys and men as perpetrators. Recent programme evidence suggests that these two populations are rarely tackled together; even fewer programmes focus on young girls and young boys. REPSHI has developed a unique holistic programme to prevent GBV that focuses on boys, girls, and their community.

We report here on results from a pre- and post-test survey.

**Methods:** A total of 497 (88.6%) out of 561 primary school pupils aged 10-18 years from nine schools in Lilongwe District, participated in the follow-up survey. Data was collected using an ACASI interviewer-administered questionnaire, which captured household poverty, mental health, and violence-related experiences and attitudes.

**Results:** At baseline, pupils mean age was 13.4±1.8 years; 50.1% were female. Poverty was high with 82.8% having endured a whole day without food in the past week. A quarter of pupils (25.3%) reported having ever been punched or hit on the head at home, 11.8% and 3.7% lived in households where parents shouted and hit each other at least once a week, respectively. At school, 39.4% reported receiving corporal punishment; 18.2% were teased and bullied, and 13.0% reported not feeling safe around school toilets. Pupils exhibited poor mental health (males=20.6%; females=16.4%). At follow-up, we found no changes in pupils’ attitudes to gender based violence, improved mental health, or sexual health knowledge. However, over 70% of girls reported using skills acquired during the programme to prevent physical and verbal abuse. Almost 80% of boys reported using an acquired skill to prevent a girl from being verbally abused.

**Conclusions:** While this programme did not impact attitudes, young people were able to immediately use the skills gained on the programme to defend themselves and their peers. This study provides strong initial evidence that programmes aimed at young people can prevent GBV.

**WEPE423**

**A QUALITATIVE EXPLORATION OF PSYCHOSOCIAL CHALLENGES FOR PERINATALLY HIV-INFECTED ADOLESCENTS AND FAMILIES IN BANGKOK, THAILAND**

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**Methods:** Focus group discussions (FGD) with pHIV+ adolescents aged 12-16 and their adult caregivers, as well as in-depth interviews with health/social work care providers were conducted at a research/health care center in Bangkok, Thailand. FGD explored concerns about living with HIV, mental health, and risk behaviors, child-caregiver communication, peer relationships, and issues of adherence, disclosure, and stigma. Interviews examined critical issues for HIV-affected families, including disclosure, adherence, coping and mental health, and perceptions about needed psychosocial interventions. Data were analyzed thematically.

**Results:** Multiple challenges emerged from the data. Adherence to antiretroviral treatment was a significant challenge that was attributed to lack of adult support, medical factors, including side effects or not feeling ill, and not wanting to disclose or acknowledge sickness. Concerns about stigma and discrimination in Thai society emerged strongly, related to difficulty disclosing HIV status to children and to others. Most kept HIV a secret based on fear of rejection. Poor communication, misunderstandings, and conflict between children and caregivers was a key concern, based on the Thai cultural expectation of obedience, generation gaps, and harsh discipline. Respondents also identified positive approaches to addressing these issues including greater social and HIV+ peer support for children and better communication skills for children and caregivers.

**Conclusions:** Significant psychosocial challenges exist for Thai pHIV+ adolescents and families. Interventions to address these issues are needed that are adapted to the Thai context, given the particular cultural, social, and familial environment and the role of HIV stigma/discrimination.

**WEPE425**

**COMMUNITY-LED MECHANISM TO IMPROVE ACCESS TO HIV TREATMENT IN WEST AFRICA: A CASE OF THE STOP PROJECT**

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**Background:** The Project STOP (Stop Stock Out Project) is a two years project implemented by ITPC West Africa to improve communities’ access to HIV treatment through a community based monitoring of ART procurement and use. The project was implemented in Côte d’Ivoire, Gambia and Sierra Leone.

**Description:** Three Rapid Situational Analysis were conducted in countries to understand treatment access and supply chain management issues. Based on information collected, an Advocacy for Community Treatment (ACT) toolkit was developed to train community activists to address threats to treatment access. In addition they were trained on ART monitoring. Community data collection on ART availability and access was carried out by data collectors trained. Data collected were channeled to project national focal point in respective countries for analysis by project focal point. When drug shortage was proven, a Community Consultation Group made up of key populations, PLHIV, discuss on findings from data collectors and write to ITPC-West Africa for advocacy activities.

**Lessons learned:** Knowledge of affected communities on drugs procurement and supply systems in the three countries was strengthened.

Stock-out information were collected all over the 20 health regions in Côte d’Ivoire. This reduced to 3 days maximum breaks stock out which occurred more than 14 days. Ten treatment activists were trained and deployed in 10 health regions in the Gambia to provide feedback on the state of stocks in the Central Medical Stores. Treatment Supply Chain was monitored in Sierra Leone, thus reducing drugs stock out of ARVs and laboratory equipment’s from a maximum of 60 days to 5 days.

**Conclusions/Next steps:** Community mechanisms can generate real-time information that guides effectively drug and commodities quantification and supplies. But also STOP Project is an example of accountability in managing ART and this system involved PLHIV. Strengthen the monitoring of the access to services around local treatment committees at all districts levels.
Train community representatives in decisions - making committees on the new funding models of Global Funds.

Reinforce the decentralization of point of care and drugs and laboratory equipment distribution in countries.

Establish community friendly feedback and reporting system within medical stores.

Lessons learned: Implementing this changed working relationship between COCQ-SIDA and its agencies was not without challenges. Among other things, it led to the end of a partnership with a large international agency. Additionally, the presentation of nuanced data and the sheer volume of information to transmit did not always allow for the creation of the types of punchy messaging and visuals that were possible in the early years of the HIV epidemic.

Conclusions/Next steps: The evolution of the collaboration between COCQ-SIDA and its communications agencies through, among other things, the development of relationships with smaller communications agencies, allowed for the creation of campaigns adapted to the needs of Quebec’s HIV sector at the community level.

Wednesday 20 July Poster Exhibition

ROLE OF APPRENTICESHIP IN IMPROVING THE LIVELIHOOD OF HIV-POSITIVE ADOLESCENTS WHO PREMATURELY DROP OUT OF SCHOOL: THE MILDEMY UGANDA EXPERIENCE

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Background: HIV&AIDS has adverse effects on the livelihood of adolescents especially when parents die or are poor due to ill health. They are therefore left with no support, thus fail to keep clinic appointments, engaging in anti-social behavior like use of drugs, risky sexual behavior etc. Mildmay Uganda has an apprenticeship programme that helps such children acquire skills with the hope that these skills will help them improve their livelihood.

Methods: A retrospective review of data of all adolescents who had been enrolled on the apprenticeship programme from January 2012 to January 2014 was done to document their progress and any lessons learnt. A vulnerability index tool was used to assess vulnerability levels and at same time to measure the progress and improvement of livelihood.

Results: A total of twenty (20) adolescents enrolled on the apprenticeship programme during the stated period. Twelve (12) were male and eight (8) were female. Twelve (12) were in the age range of 17-24 years. Six (06) of them dropped out at primary level and fourteen (14) dropped out at secondary level. All the clients studied were orphaned either by one parent or both. The skills given were: tailoring (02), hairdressing (06), mechanics (03), plumbing (01), Jewellery (01), knitting (01), barbering (01), cobbler (01), cookery (04) among others. Sixteen out of the 20 (80%) have been able to use the acquired skills to improve their livelihood. The vulnerability level assessment outcome showed graduation from extremely poor to poor. These adolescents are now able to meet their basic needs, keep clinic appointments and are emotionally stable.

Conclusions: Apprenticeship is one way that can be used successfully to improve the livelihood of adolescents who prematurely drop out of school.

THE RESEARCH IS THE INTERVENTION: STRENGTHENING NETWORKS OF PERSONS LIVING WITH HIV THROUGH PARTICIPATORY ACTION RESEARCH

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Background: HIV stigma and discrimination is a perpetual issue among many disenfranchised populations of people living with HIV (PLHIV) and a fundamental barrier to addressing the HIV epidemic. Grounded in the principles of the Greater Involvement of People Living with HIV (GIPA), the first U.S. implementation of the PLHIV Stigma Index was piloted in the greater Detroit, Michigan area. The study engaged PLHIV leadership into each phase of the research process, including data collection, analyses, and advocacy.

Description: The PLHIV Stigma Index survey was adapted and facilitated by the convening of The Global Network of PLHIV North America and UNIFIED-HIV Health and Beyond to capture the social, cultural and economic challenges. Five diverse HIV-positive leaders from key populations were recruited and trained to administer the survey.

The interviews, along with a coalition of HIV positive community leaders, formed The Leadership Council to govern the direction of the project. We report study implementation perspectives from group and individual interviews conducted with the leadership council (n=7), and study interviewers.

Lessons learned: Through community input having participatory-action research by PLHIV members facilitated the recruitment of populations considered “hard-to-reach.” The HIV-status and racial, gender, and age diversity of interviewers improved the speed and scope of data collection from diverse PLHIV in the area. Interviewers’ background and their quality of life. This study is aimed at exploring the extent to which this program contributes to the improvement their livelihood.

Lessons learned:
- Through community input having participatory-action research by PLHIV members facilitated the recruitment of populations considered “hard-to-reach.”
- The HIV-status and racial, gender, and age diversity of interviewers improved the speed and scope of data collection from diverse PLHIV in the area.

WEPED428

CHALLENGES TO COLLABORATION BETWEEN COMMUNITY ORGANIZATIONS AND PRIVATE COMMUNICATIONS AGENCIES IN DEVELOPING HIV/AIDS COMMUNICATIONS CAMPAIGNS IN QUEBEC/CANADA BETWEEN 2004 AND 2014

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Background: In Canada, since the beginning of the 1990s, community organizations have been collaborating with communications agencies to develop campaigns aimed at preventing new infections and fighting the stigmatization linked to HIV. At the onset of the epidemic, collaboration between the two sectors was facilitated by the urgency of the need to spread information, and the simplicity of the message - HIV = death.

Campaign concepts were generally created by agencies, and proposed to community organizations. This aspect of the working relationship was renegotiated starting in the 2000s, as a result of the growing complexity of the messaging and the context of community action.

Description: Since the 1990s, COCQ-SIDA has produced numerous communications campaigns. These campaigns were always the result of partnerships with various communications agencies. With the therapeutic advances of the late 1990s and a better understanding of the impact of stigmatization on people living with HIV or AIDS, COCQ-SIDA was looking to renew its communications messages and approaches. In light of this, in the early 2000s COCQ-SIDA developed new ways of working, increasing its autonomy in relation to its agencies, with the aim of producing campaigns that better responded to the needs of Quebec’s HIV sector at the community level. It accomplished this by:

1) choosing local communications agencies
2) introducing preliminary meetings with agencies
3) creating a very detailed client brief for each campaign.
ACCESS TO APPROPRIATE PREVENTION, DIAGNOSIS, TREATMENT, CARE AND SUPPORT SERVICES, INCLUDING FOR CO-INFECTIONS AND CO-MORBIDITIES

WEPE429
EVALUATION OF DIFFERENT HIV RAPID TEST ALGORITHMS AS AN ALTERNATIVE TO HIV INFECTION CONFIRMATION AMONG MSM IN CHINA

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Background: The HIV rapid test is quicker, easier and more cost-effective than the traditional Western Blot (WB) plus Nucleic Acid Test in HIV diagnosis. This study aims to evaluate the performance of different HIV rapid test algorithms and advocate for revision of national guidelines in China.

Methods: From July in 2014 to June in 2015, On-site blood specimens were collected from MSM clients at YouCan Hospital in Beijing, China. All specimens were screened with 3 rapid test kits and confirmed by WB plus nucleic acid test where necessary. Different combinations of rapid kits algorithms were explored and compared to the conventional standard algorithm. Shanghai Kehua, Xiamen InTec, and Zhengzhou Autobio HIV rapid test kits were selected in this study because of high sensitivity (99.9%), high specificity (> 98%) in previous research and wider availability in China.

The results of two-kit or three-kit algorithms were recorded as positive or negative if all kits produced the same results and as indeterminate if any discordant result was produced.

Results: Among the 1419 on-site MSM blood specimens, 1046 were negative (2 of them were WB indeterminate, subsequently identified as negative by nucleic acid test) and 373 were WB positive. The sensitivity and specificity of the selected 3 HIV rapid test kits were 99.7 - 100% and 99.6 - 99.9% respectively. With the kits number increase in an algorithm, the positive predictive value (PPV) and negative predictive value (NPV) increased from 98.9% to 100% and 99.7% respectively while because of the indeterminate results, the positive coincidence rate, negative coincidence rate and total coincidence rate respectively decreased from 100% to 99.4%, 99.9% to 99.5% and 99.7% to 99.4%.

Conclusions: HIV rapid test algorithms work well, especially the three-kit rapid test algorithms given high sensitivity and specificity of rapid test kits. The findings add to the mountain evidence that revision of national guidelines in HIV detection is essential.

WEPE430
HOW AMBIVALENCES IN THE PROVIDER-PATIENT RELATIONSHIP MEDIATES ACCESS TO CARE AND TREATMENT AMONG PEOPLE LIVING WITH HIV IN WESTERN KENYA: INSIGHTS FROM A QUALITATIVE STUDY

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Background: The provider-patient relationship is central to successful navigation through the ‘cascade’ of care for people living with HIV (PLHIV). Currently there is a paucity of qualitative data relating to the dynamics and consequences of this relationship within the Kenyan context. We aimed to explore the complexities and contradictions within this relationship to elucidate patient trajectories through the HIV ‘cascade’ of care.

Methods: This qualitative study, conducted in Kisumu, Kenya, draws upon 50 in-depth interviews with purposively sampled PLHIV at different stages of the ‘cascade’ (never initiated on antiretroviral therapy [ART], recently initiated on ART, initiated but defaulted from ART, stable on ART), along with 10 family members of people who died due to HIV, and 8 HIV healthcare workers. Data were collected in 2015-2016 using topic guides which explored patient testing and ART treatment journeys. Thematic analysis was conducted, aided by NVivo 10 software.

Results: The provider-patient relationship was characterized by ambivalence. The relationship at the point of testing was commonly mutual, with providers often giving tailored, flexible advice and encouragement to diagnosed patients. However, where patients did not enrol at an HIV clinic, there was little attempt by providers to re-engage them. For those that initiated ART, the relationship frequently became asymmetrical with patients less empowered and more coerced, particularly during pre-ART adherence counselling sessions. During treatment, nurses often shifted responsibility for HIV management onto patients, providing limited practical or psychosocial support, making adherence problematic. This was often compounded by abusive communication which could result in patients either ceasing to attend the clinic or seeking healthcare elsewhere. However, where patients conformed to providers' ideal type of patient as an adherer to treatment, the relationship was often cordial.

Conclusions: The provider-patient relationship changes at different stages along the ‘cascade’ and is often characterized by ambivalence which influences patients' interactions with the health care system. Greater efforts to enhance ongoing supportive relationships between patients and providers with tailored and non-judgemental advice could promote patients' engagement in long-term HIV care and treatment and improve ART adherence.

WEPE431
OPPORTUNITIES AND CHALLENGES FOR ‘TEST-AND-TREAT’ IN EASTERN AND SOUTHERN AFRICA: INSIGHTS FROM A MULTI-COUNTRY QUALITATIVE STUDY ABOUT ACCESS TO HIV TREATMENT

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Background: In September 2015, the WHO released revised global guidelines to HIV treatment and care, recommending lifelong antiretroviral treatment (ART) for anyone testing positive for HIV - an approach that has been dubbed ‘test-and-treat’. Health departments and key stakeholders, across sub-Saharan Africa, are currently developing strategies for to roll-out ‘test-and-treat’. In the interest of informing these discussions, this paper draws on findings from a multi-country qualitative study about local perceptions of different HIV treatment programmes, and their influence on access to HIV treatment, to identify possibilities and challenges for the ‘test-and-treat’ policy.

Methods: The study was conducted in 2015-2016 and draws on interviews from 180 people living with HIV (including people who had, and had not accessed ART), 36 health care providers, and 36 family members of people known to have died from HIV. The participants were purposively sampled from sites in Uganda, South Africa, Tanzania, Kenya, Malawi and Zimbabwe. Topic guides explored patient and provider experiences of HIV testing, care and treatment services. Transcripts were imported into NVivo 10 analysed thematically.

Results: The analysis revealed three core challenges - cutting across all sites - to the implementation of ‘test-and-treat’: One, constantly changing guidelines, coupled with hybrid implementation systems, contributed to a general sense of confusion and distrust amongst health care staff around who to treat when, although this confusion manifested itself differently between countries. Two, perceptions of need for treatment have not changed in accordance with evolution in policy guidance, particularly amongst seropositive and asymptomatic people. Three, experienced and anticipated HIV-related stigma, meant newly diagnosed eligible patients refrained from using health services optimally. On the other hand, challenges pertaining to the interval between HIV diagnosis and ART initiation, and delays experienced by patients who are motivated to start on ART, are likely to be addressed through the introduction of ‘test-and-treat’.

Conclusions: Country programmes implementing ‘test-and-treat’ must consider the role of time and readiness in shaping access to treatment. New and shifting guidelines, expanding the eligibility for ART, in combination with old perceptions of need for treatment and stigma, do not provide many PLHIV with the time and space needed to adopt a treatment-enabling patient persona.
WEPE432
IMPACT OF EFFICIENT PSYCHOSOCIAL FOLLOW-UP ON VIRAL LOAD SUPPRESSION RATE AMONG HIV-POSITIVE PATIENTS TREATED WITH ANTIRETROVIRAL THERAPY

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Background: Psychosocial services play a great role in the management of HIV infected patients. In Rwanda, we consider this program as a priority for the success of HIV antiretroviral therapy. However, this program is challenged by a high turnover of trained staff, which results in a poor management of HIV infected patients in our health facilities.

To understand the impact of psychosocial follow up on the success of HIV treatment, we considered viral load test. We assumed that a suppressed viral load is a good indicator of antiretroviral treatment success. 

Methods: This is a retrospective descriptive study, conducted in 35 health facilities from four district hospitals in Rwanda from September up to November 2014. We assumed that an efficient psychosocial service can have an impact on viral load suppression rate for patients on anti-retroviral treatment.

A regular psychosocial recording in patient files, a psychosocial worker available, trained and being regularly (more than 5 hours daily) in service, home visits for patients and availability of adolescent support groups were considered as independent variables. Logistic regression has been used to look for factors associated with viral load suppression.

Results: A total number of 35 health facilities were assessed (85.3% of all health facilities in the eligible area). 16 health centers (45.7%) had viral load suppression rate above 80% and 19 health centers (54.2%) have viral load suppression below 80%.

Among variables studied, trained psychosocial worker regularly working in HIV clinic was the only which is associated with viral load suppression rate, statistically significant with $\beta$ = 0.001, OR = 16 and CI = 3.01–85.304. Other variables, a regular psychosocial follow up recorded in patient files ($\beta$ = 0.078), home visits for patients ($\beta$ = 0.393) and availability of adolescent support groups ($\beta$ = 0.245) were not statistically significant.

Conclusions: This study showed that psychosocial support initiatives have a significant impact on viral load suppression. Availability of social workers in our health facilities is a key component in HIV care. We recommended availing social workers in our health facilities to improve the success of the ART programme in the future.

WEPE434
SOCIAL DETERMINANTS OF RETENTION IN CARE AMONG MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (WARRIAR) LIVING WITH HIV IN INDONESIA: A CROSS-SECTIONAL STUDY

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Background: Many people living with HIV in Indonesia do not consistently visit health care once diagnosed. Accordingly, only 10-20% of all HIV-positive people currently receive ART. As Indonesia is a highly stigmatised country, MSM and the waria (Indonesian term for transgender women) face highly unique barriers in accessing health care, compared to other populations. Therefore, we sought to explore the predisposing, enabling, and reinforcing factors that promote retention in HIV care.

Methods: This cross-sectional study involved 298 self-reported HIV-positive MSM (n=165) and waria (n=133) in seven major cities in Indonesia. Participants were recruited using targeted sampling and interviewed using a structured questionnaire. In this analysis, we defined retention in HIV care as at least one health-care visit every three months once a person is diagnosed HIV positive. A stepwise multivari- able logistic regression was applied to test factors associated with retention in care.

Results: Of all participants, 66% were adequately retained in care, and about half were already on ART. Overall, MSM participants were younger (p < 0.05), and had higher rate of retention in care compared to the waria group (p < 0.01). Retention was more likely among MSM participants who had been exposed to HIV-related information from the internet (AOR, 2.12; 95% CI: 1.01-4.46), enrolled into a medical insurance program (AOR, 2.81; 95% CI: 1.27-6.21), or were currently on ART (AOR, 6.08; 95% CI: 3.00-12.3). Conversely, individuals reporting stronger social support (AOR, 0.54; 95% CI: 0.32-0.92) and membership in an HIV-related organization (AOR, 0.47; 95% CI: 0.24-0.92) were less likely to be retained in care.

Conclusions: Our findings suggest it might be possible that increasing internet-delivered HIV information could improve retention in care, and that it is crucial to provide access to medical insurance for MSM and waria living with HIV. More research is needed to identify how social support and organizational membership affect retention in care of these groups in Indonesia.

WEPE443
THE COST OF ACCESSING ART: SOCIO-ECONOMIC BARRIERS TO CONTINUOUSLY ACCESSING ANTIRETROVIRAL TREATMENT (ART) FROM THE PERSPECTIVE OF LONG-TERM ART USERS AT A PUBLIC HEALTHCARE CLINIC IN DURBAN, SOUTH AFRICA

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Background: The South African Antiretroviral Treatment (ART) programme is the largest ART programme in the world, with over 2.5 million people receiving treatment. However, the rapid increase in ART users has resulted in health system barriers that threaten the continuity of access and cause disengagement, which potentially has a significant impact on the success of the ART programme in the future. This ethnographic investigation examined barriers to continuously accessing ART, as perceived by ART users in the public healthcare system in Durban, South Africa.

Methods: A mixed methods ethnography was conducted in an urban ART clinic based at one of Durban’s largest public hospitals. A total of 190 participants were involved in this study. Ten in-depth interviews, four focus group discussions and 150 questionnaires were completed with adult male (n=57) and female (n=133) ART users, who had been on treatment for more than one year. Participant observation was conducted for a period of 7 months within the ART clinic. The data was triangulated, coded and thematically analysed using NVivo 10 and SPSS software.

Results: A number of important social factors were elucidated, including stigma (healthcare, social and work related), gender, personal health beliefs and social support. Stigma due to service design and implementation posed an important obstacle for continued access to treatment. Various economic factors were reported and included transport costs, time off work, monthly visits and irregular income. Borrowing money from relatives was described as a common strategy to navigate costs or lack of funds. However, the monthly visits to access treatment impact on employment, presenting a more challenging obstacle to overcome, since they are beyond the control of the individual.

Conclusions: Remaining in care is a challenge that ART users have to face on a monthly basis to ensure their own health and well-being. Social and economic issues threaten continuous access to the ART programme, which in the long term may lead to individual disengagement from the programme. The study highlights the importance of conducting implementation science projects to address socio-economic challenges within the healthcare setting to improve long-term ART outcomes and retention in ART services.

WEPE445
RANDOMIZED CONTROLLED TRIAL OF A PEER NAVIGATION INTERVENTION TO IMPROVE RETENTION IN HIV CARE AND VIRAL SUPPRESSION AMONG HIV+ MEN BEING RELEASED FROM LARGE URBAN JAIL: POTENTIAL MEDIATORS AT BASELINE

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Background: Antiretroviral therapy (ART) has both clinical and public health benefits, yet little is known about potential mediators of retention in HIV care and viral suppression (VS) for HIV+ persons released from incarceration. We assumed that an efficient psychosocial service can have an impact on viral load suppression rate among HIV-positive patients treated with antiretroviral therapy. However, this program is challenged by a high turnover of trained staff, which results in a poor management of HIV infected patients in our health facilities.

Methods: We recruited 356 HIV+ jail inmates, performed a baseline assessment, and randomized them 1:1 (180 intervention, 176 control) to a peer navigation intervention. Randomized controlled trial of a peer navigation intervention to improve retention in HIV care and viral suppression among HIV+ men being released from large urban jail: potential mediators at baseline.

Results: Of all participants, 66% were adequately retained in care, and about half were already on ART. Overall, MSM participants were younger (p < 0.05), and had higher rate of retention in care compared to the waria group (p < 0.01). Retention was more likely among MSM participants who had been exposed to HIV-related information from the internet (AOR, 2.12; 95% CI: 1.01-4.46), enrolled into a medical insurance program (AOR, 2.81; 95% CI: 1.27-6.21), or were currently on ART (AOR, 6.08; 95% CI: 3.00-12.3). Conversely, individuals reporting stronger social support (AOR, 0.54; 95% CI: 0.32-0.92) and membership in an HIV-related organization (AOR, 0.47; 95% CI: 0.24-0.92) were less likely to be retained in care.

Conclusions: Our findings suggest it might be possible that increasing internet-delivered HIV information could improve retention in care, and that it is crucial to provide access to medical insurance for MSM and waria living with HIV. More research is needed to identify how social support and organizational membership affect retention in care of these groups in Indonesia.
**Methods:**

- We conducted qualitative interviews with HIV-positive women (n = 28) who had been incarcerated ≥2 times in jail/prison.
- We transcribed interviews verbatim and used content analysis with multiple, independent coders to elucidate themes related to key components of pediatric service delivery that have changed rapidly in recent years, and as such tend to vary across countries with a high burden of pediatric HIV.

**Results:**

- Among 356 participants, mean age was 39.6; blacks were 42%, Latinos 31%, whites 27%; MSM 50% transgenders 15%. Half had annual incomes of $20,000 or less, while 55% were uninsured. Overall 46% were retained in HIV care and 50% had ≥10 years since diagnosis. Significant multivariate correlates of both retention in care and VS were access to care, competing needs, and social stigma (Table 1).
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**Conclusions:**

- Access to care, competing basic needs, and social stigma were strongly associated with continuum of care for HIV+. Men leaving a large U.S. jail, and make key targets for the intervention underway.

**WEPE437**

**ARE KEY COMPONENTS OF COUNTRY-LEVEL PEDIATRIC NORMATIVE GUIDANCE KEEPING UP? A TWENTY-COUNTRY REVIEW**

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**Background:**

As of 2014, 2.8 million children are living with HIV (CLHIV) worldwide, and programming high-quality pediatric HIV care remains a priority. This study examined the national HIV guidelines of 20 PEPFAR priority countries for content related to key components of pediatric service delivery that have changed rapidly in recent years, and as such tend to vary across countries with a high burden of pediatric HIV.

**Methods:**

- The latest HIV guidelines for 20 PEPFAR priority countries were reviewed for content related to: (1) nurse-managed pediatric HIV service delivery (task-shifting), (2) pediatric disclosure, and (3) first-line pediatric antiretroviral (ARV) regimens. For this review, pediatric disclosure was defined as the process by which a child learns his or her HIV status. The 2015 WHO pediatric ART guideline recommendations were considered the standard of care.
- This review highlighted a few of the current gaps where service providers and policy-makers may improve existing guidelines.

**Results:**

- Of the 20 country guidelines reviewed, 10 of the 20 countries (50%) referenced the importance of task shifting to increase access to care for children living with HIV (CLHIV). Language supporting the initiation of the disclosure process during childhood was included in 16 of the 20 reviewed guidelines (80%). The recommended age to start disclosing, however, varied, as did guidance on who should lead the process. Ten country guidelines (50%) included first-line treatment regimens matching WHO recommendations for children <10 years of age. Only 11 countries (55%) recommended a Lopinavir/Ritonavir (LPV/r)-based ART regimen as first line for children younger than three years of age. In adolescents older than 10 years, all but one of the reviewed guidelines (95%) documented matching WHO guidelines. (See Table 1).

**Conclusions:**

- In Alabama, the most needed and helpful services for formerly incarcerated HIV-positive women were offered by struggling non-governmental organizations. Intense coordination of services across agencies, framed as re-entry counseling, and the addition of long-term services to promote independence, are needed to improve the quality of life of this highly stigmatized, vulnerable group.
WEPE438

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Background: In 2011, Uganda acknowledged that sex workers, MSM, PWID, uniformed service men, fisher folk among others, were at increased risk of HIV; with barriers to accessing HIV services compared to the general population. Guided by the global movement to target sources of new infections amidst the primitive socio-cultural and legal environment, the country embarked on a road map to improve HIV response among KPs. This paper describes the programmatic milestones and achievements made in HIV response among KPs in Uganda.

Description: Initially Uganda identified barriers to the KP response to include; limited coordination and representation of KP communities, lack of agreed indicators to track interventions, and knowledge on the KPs sizes and profiles, uncoordinated provision of KPs friendly health services, stigma and discrimination. Since 2013, HIV experts and leaders visited the India BRIDGE and SHARE projects to bench mark HIV programming for KPs in settings with hostile legal environment. Following the visit, the national Multi-sectoral KPs coordination committee was setup to track and reorganize the HIV response among KPs. The committee meets quarterly p.a to guide and direct HIV response among KPs in Uganda.

Lessons learned: The KPs have representatives to the Global Fund Country Coordination committee, MARPs steering committee and MARPs sectoral committees that coordinate the HIV response in Government. Due to local KP advocacy, Uganda received a Global fund grant worth USD 1.2million, which has been used to strengthen leadership for KP networks and accelerate HIV services delivery among KPs in 11 districts. Uganda conducted a KPs profile and size estimate study that informed targeting for the national KPs programming. Over 2000 KPs are accessing HIV services, from the MOH/CSOs collaboration, KPs in 11 districts. Uganda conducted a KPs profile and size estimate study that informed targeting for the national KPs programming.

Conclusions/Next steps: Previously considered hostile, Uganda is fast progressing towards advocating and offering KPs friendly services. The country is embarking on completing the KP priority action plan and guidelines for HIV services provision to KPs. The country plans to conduct nationwide hotspot mapping and KP size estimate to further guide HIV programming.

WEPE439
ACCESS TO ANTIRETROVIRAL TREATMENT, TOWARD 90-90-90 GOAL IN ANTENATAL CARE IN THE AMAJUBA DISTRICT

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Background: The KwaZulu Natal (KZN) province in South Africa has high antenatal HIV prevalence rates, an estimated 40.1% in 2013. Improved access to ART has resulted in declining HIV prevalence rates in some districts of KZN. In Amajuba, for example, the HIV prevalence rate has declined from 46.0% in 2006 to 32.8% in 2013 with a concurrent increase in the uptake of ART among pregnant women.

Description: In 2013, the South African Department of Health’s (DoH) policy changed from a single dose ART prophylaxis to lifelong ART initiation for all mothers who tested HIV positive. The PMTCT accelerated plan, a national DoH initiative to address high transmission areas, comprising both facility and community based activities initiated community dialogues to encourage service uptake as well as the mothers-to-mothers peer to peer support programme where mentor mothers convened support groups with newly initiated mothers to encourage and offer support with ART.

At the facilities, a steering committee was set up and all clinics were encouraged to produce process maps of their PMTCT facility and regular feedback sessions were held with the clinic staff where they were able to present to other facilities on the progress made and challenges they faced.

Lessons learned: These interventions have led to an increase in the uptake of ART with mothers initiated on ART at ANC increasing to 14% in 2014. Having more clients on lifelong ART is an important prerequisite for decreasing population level HIV incidence.

Conclusions/Next steps: In a setting where almost all mothers present for antenatal care at a health facility, there is a great opportunity to initiate patients who are found to be HIV infected. A strong community support initiative running parallel to facility based services can improve ART adherence with wider public health benefit.

WEPE440
ADOLESCENT HEALTH POLICIES IN UGANDA: MAKE THEM REAL

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Background: Uganda has a significant young population, approximately 53% of the population are under the age of 15 years; and one in four are aged 10-18. Uganda’s Adolescent Sexual and Reproductive Health Policy aims to mainstream adolescent health concerns into the national development agenda; and improve the quality of life of adolescents, who have specific health and social needs. The policy has a number of objectives, including to provide and increase availability and accessibility of quality information and health services to adolescents and to provide policy makers and key actors guidelines for addressing adolescent health concerns. while Uganda has a comprehensive policy, it is not operationalized. Both district health officials and adolescents do not know about the policy.

Description: Community Health Alliance Uganda collaborated with two networks of young people to sensitize decision-makers and youths about the adolescent health policy in 2015. The training included 50 decision makers including parliamentarians in the districts of Nakasongora, Luwero, Namutumba and Bugiri. The youth networks trained 150 youth advocates on adolescent health policy. Youth advocates learnt how to identify opportunities and engage in the design, implementation and monitoring and evaluation of programmes for young people. This included specifically demanding youth-friendly services in health facilities, where young people are involved in the design and implementation.

Lessons learned: Young people who understood the adolescent health policy were better able to demand health services because they knew the responsibilities of government.

Training youth advocates resulted in specific asks for youth-friendly services and spaces managed by young people themselves.

Conclusions/Next steps: Young people’s advocacy has led to greater commitment and intensified support for actual implementation of the adolescent health policy from district level officials, parliamentarians, policymakers, programmers, young people and parents. 50 youth friendly corners were estimated. The focus on a specific ask for advocacy provided a practical focus of the advocacy skills learned and hands-on experience engaging with decision-makers has established an ongoing dialogue between the various groups.

WEPE441
WHAT IS THE STATUS OF NATIONAL COMMITMENTS AND POLICIES FOR MULTISECTORAL HIV AND AIDS RESPONSE FOR VULNERABLE CHILDREN?

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Background: With national responses for orphans and vulnerable children (OVC) increasingly incorporated into broader social protection and child protection efforts, the National Commitments and Policy Instrument (NCPI) of the 2014 Global AIDS Response Progress Reporting (GARPR) was revised to evaluate the commitment to HIV-sensitive social protection in national HIV and AIDS programmes. The 2014 NCPI data were analysed to assess: a) the extent to which national HIV and AIDS responses have integrated HIV and AIDS programming into sectoral and multisectoral policy, strategy, and planning; and b) the extent to which children affected by AIDS are supported within child protection, social protection, and other development-focused policy, strategy, and planning.

Methods: Quantitative and qualitative analyses were conducted on the 2014 NCPI responses from government and civil society stakeholders; HIV domestic spending data from 2009-2013; and National AIDS Spending Assessments.

Results: In 2014, 119 out of 201 countries submitted NCPI reports (59%). The majority of the 119 countries (97%) responding to the NCPI had a national and multisectoral HIV strategy in place. Only two-thirds of respondent countries noted the integration of HIV into poverty alleviation strategies and less than one-fifth reported integration of HIV into a sector-wide approach. Seventy percent of countries re-
porting OVC spending from 2009-2013 show that international sources accounted for 90% or more of total OVC funding. Further, laws and policy environments that negatively impact key populations’ access to prevention, treatment, care and support services were also prevalent.

Conclusions: An effective national HIV response is premised on strong interactive links between all national sectors, strategies, policies, and planning instruments. This analysis reveals that while some headway has been made to integrate HIV responses into a broader multisectoral and HIV-sensitive approach, more effort is required. Further integration of HIV into poverty reduction strategies, as well as the adoption of a cross-sectoral approach and the commitment of adequate national resources, are encouraged to create a comprehensive policy and planning response to the epidemic, and to meet the needs of orphans, children, and youth vulnerable to HIV.

WEPE442
TEST AND TREAT: MINIMUM PROGRAM AND FINANCIAL CONSIDERATION FOR A NATIONAL PROGRAM IN A SCENARIO OF DIMINISHING FUNDING FOR HIV

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Background: The global HIV treatment guidelines, aiming to end HIV as public health threat by 2030, evolved from absolute lymphocyte counts< 1200 and CD4 count < 200/cmm to CD4 < 350/cmm, < 500/cmm and recently, to test and treat. Recommendations, though scientifically evidenced, carries lot of operational and programmatic considerations. Cut off of CD 4 < 350 is followed as the eligibility for ART in India (soon to be revised to < 500). Clinical stage 3 & 4, pregnant women, children below 5 years, HIV TB and hepatitis C co-infected are eligible irrespective of CD4 count. We attempt to quantify implications of these guidelines.

Lessons learned:
- The basic unit costs currently used in the program for ARV and its monitoring were only ARV, and treatment as bare minimum).
- The detailed immediate implications are tabulated below

### Implication

<table>
<thead>
<tr>
<th>Implication</th>
<th>Current scenario (CD4&lt;350/cmm)</th>
<th>Immediate additional implication of treat (2.5 lakh PLHA in next 5 years)</th>
<th>Future implications Year 1 (2.2 lakh new estimated enrolments/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program expansion</td>
<td>Number of centers - 520 ART centers</td>
<td>650 ART centers, Additional HR, training and infrastructure costs</td>
<td>Maintain number of centers</td>
</tr>
<tr>
<td>Commodity cost (consider only ARV, and monitoring treatment as bare minimum)</td>
<td>ARV - Baseline</td>
<td>28 million USD over baseline</td>
<td>Baseline + 56 million USD every year</td>
</tr>
<tr>
<td>CD4 test</td>
<td>Baseline</td>
<td>Baseline plus 1.45 million</td>
<td>Baseline plus 2.9 million USD</td>
</tr>
<tr>
<td>Viral load</td>
<td>Baseline plus 7.25 million USD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Immediate implications)

Conclusions/Next steps: There is ample evidence on long term benefits of test and treat approach for individual as well as prevention globally. However, adaptation of these guidelines translates into extensive programmatic issues like more service delivery sites, human resources, training and commodities. These factors need to be well thought and planned before the adaptation really occurs and the governments, development and funding partners should consider this if the targets under 90-90-90 and ending AIDS as public health threat is to be achieved by 2030.

WEPE443
BUILDING CONSENSUS TO PROMOTE SYNERGY BETWEEN BIOMEDICAL ADVANCES AND HUMAN RIGHTS IN THE CANADIAN RESPONSE TO THE HIV EPIDEMIC

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Background: Three national HIV organizations identified unproductive tensions in Canada between community-based responses to HIV and responses that privilege biomedicine. This dynamic may have contributed to ongoing gaps in the HIV response, including failure to adequately address the complex and inter-related health, psychosocial, and basic support needs of marginalized people living with and affected by HIV. We struck a working group to develop a Canadian Consensus Statement on the health and prevention benefits of HIV antiretroviral medications and HIV testing.

Description: We
- (1) held two focus group consultations with a diversity of stakeholders;
- (2) researched and drafted the Consensus Statement;
- (3) solicited key opinion leader feedback;
- (4) conducted an open, six-week on-line consultation;
- (5) finalized the Statement taking into account key opinion and public feedback;
- (6) developed communications tools and dissemination strategies for each stakeholder group; and
- (7) published the consensus statement and invite signatures from individual and organizations.

Lessons learned: Stakeholder groups in the civil society response to HIV in Canada (key populations, health care professionals and researchers, AIDS service and other community-based organizations) support a national HIV response based on the latest scientific evidence and human rights. Two factors contributed consensus. First, we consulted broadly with stakeholders, through successive rounds, over a prolonged period of time (18 months). Second, we used the draft Consensus Statement to set out in plain language recent scientific and medical breakthroughs in HIV, and the importance of human rights. Significant tensions existed regarding expanding HIV testing. Specific and detailed statements regarding HIV testing were required to achieve consensus. Acceptance of the synergy between biomedical advances and respect for human rights is key to promoting GPA/MEPA and increasing access to and uptake of HIV testing, ARV treatment, PEP and PrEP.

Conclusions/Next steps: We will identify champions to promote the Consensus Statement as a basis to foster collaboration among stakeholder groups committed to developing policies, programs and interventions that integrate biomedical advances and human rights. This ongoing consensus building process and the Consensus Statement can become important tools for addressing the complex needs of the diversity of people living with and affected by HIV in Canada, especially the most marginalized people.

WEPE444
HARNESSING THE POTENTIAL OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) POLICY AND REGULATION TO SUPPORT AND SUSTAIN GHANA’S AIDS RESPONSE

B. Ofosu-Koranteng1, B. Amankwah2, T. Sellers3

Background: Ghana’s Shared Growth and Development Agenda puts a huge premium on the development of large infrastructure in the energy and oil/gas sectors. Bodies such as ECOWAS, SADC and the AU have strategically prioritized large capital projects as a way to boost economic growth and regional integration. Studies in Lesotho, Mozambique, Namibia and South Africa confirms the direct links between the development of large capital projects and HIV prevalence. Ghana has made huge strides in dealing with the HIV epidemic and has a current prevalence rate of 1.3%. Sustaining these gains require innovative ways of addressing key drivers of the epidemic given the emphasis on infrastructure development. The UNDP/AfDB initiative on strengthening the integration of HIV and gender issues in Eias aims to ensure the proper estimation of HIV risks and the development of appropriate measures to proactively mitigate the negative social and environmental impacts associated with the execution of large projects.

POLICIES ADDRESSING SOCIAL AND ECONOMIC DETERMINANTS OF VULNERABILITY
WEPE4D46
HEALTH, HIV AND GENDER IN INTERNATIONAL ENVIRONMENTAL AND SOCIAL SAFEGUARD SYSTEMS: ARE WE DOING ENOUGH?
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Presenting author email: benjamin.ofosu-koranteng@undp.org

Background: Most large capital projects in Sub-Saharan Africa are funded by multilateral development banks (MDBs). All of these developments require an environmental and social impact assessment to be conducted prior to the approval of a loan - both in terms of national environmental legislation and as a funding requirement for most MDBs. There is evidence that shows that in spite of these requirements, HIV prevalence, and other co-morbid conditions are always exacerbated around large development projects. Why is this the case?

Description: The UNDP/AfDB initiative on Integrating HIV and Gender Equality into Environmental Assessment Processes in Africa has carried out studies into the extent of integration of social and health issues. The systems chosen included those of the World Bank and IFIs, as these are applied globally at government and private sector levels respectively.

Lessons learned: All the ESS systems reviewed have weaknesses. The main issue being that none clearly define upfront what is meant by ‘social’, ‘health’, ‘wellbeing’ and ‘gender’. The inclusion of health issues is also inconsistent within and between ESSs. In terms of communicable diseases (CDs), HIV and STIs are mentioned by all, but there is no identification of other CDs and their linkages with HIV, such as TB. Other development-induced health issues such as malnutrition and psychological problems including mental health are barely mentioned, while risk factors of non-communicable diseases are not recognised in the context of development project ESIA at all. None of the ESSs reviewed make the explicit link between gender and health and none offer a comparative analysis of the underlying causes or drivers of health and HIV issues.

Conclusions/Next steps: The study recommended that the terms ‘environment’, ‘social’, ‘health’ and ‘gender’ should be more clearly defined ESS. If gender, commun-ity health and occupational health issues are all given full consideration prior to a loan agreements signed for these projects, there is an opportunity for much greater inter-sectoral cooperation, both within the MDB project appraisal teams and in the host nation’s governance structures.

POLICIES ADDRESSING HIV AND AIDS IN THE WORKPLACE AND EDUCATIONAL INSTITUTIONS

WEPE4D46
WE ARE FAMILY: INCLUSIVE HUMAN RESOURCE POLICIES TO ENSURE GREATER ENGAGEMENT AND OPPORTUNITIES FOR TRANSGENDER EMPLOYEES: EXPERIENCE FROM INDIA HIV/AIDS ALLIANCE
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Background: Lack of employment opportunities is one of the biggest challenges faced by transgender people in India. Stigmatization and harassment at the workplace further compound this issue, as transgenders face transphobia in many organizations. An enabling and sensitive work environment is key to address the unique challenges faced by this group.

Description: India HIV/AIDS Alliance (Alliance India) follows a community-centric approach in its programmes and actively recruits qualified staff from affected communities. The organization strongly believes in equal opportunity principles and has laid down a clear human resource policy that outlines core values of non-discrimination, including free expression of gender identity. With zero-tolerance for all gender-based discrimination, Alliance India also has a sexual discrimination and harassment policy to respond effectively in the event of any incidents. Periodic sensitisation training programmes are carried out for staff and service providers used by the organization. Alliance India successfully negotiated a comprehensive private health insurance policy that includes provisions for partners of transgender and sexual minority staff. Gender identity, HIV status, and health information of every employee are kept confidential, and sharing such information is up to each staff member. Extra support is granted to ensure equity for staff who face particular challenges due to their gender identities, such as legal assistance to help secure identity documents that reflect chosen gender and subsidies for private accommodation during hospital stays.

Lessons learned: Alliance India has succeeded in fostering an inclusive and enabling workplace environment by ensuring the safety, comfort, and holistic development of all staff, including transgenders or gender non-conforming employees. This has enabled workplace integration and helped reduce stigmatizing behaviours and attitudes at the workplace.

Conclusions/Next steps: A clear and supportive human resource policy nurtures better psychological health and job satisfaction among all employees. There may be initial costs in ensuring supportive policies at the workplace, such as extending health benefits to partners of LGBT employees or establishing policies responsive to the needs of staff living with HIV. However, sensitive human resource management helps attract and retain talented people, fosters a supportive and innovative workplace, and creates greater value proposition for stakeholders in our work.

POLICIES RELATED TO TREATMENT ACCESS AND INTELLECTUAL PROPERTY

WEPE4D47
PATENT OPPOSITIONS AS IMPORTANT TOOL FOR INCREASING ACCESS TO HIV/AIDS TREATMENT
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Background: Nowadays pharmaceutical companies use bad faith strategies in a sphere of patenting because of existing imperfect R&D model. One of such strategies is evergreening of pharmaceutical patents. Evergreening refers to a variety of legal and business strategies by which companies with medicines patents that are about to expire retain royalties from them by obtaining new unmerited patents. Evergreening patents are dangerous because they may decrease access to life-saving medicines by allowing pharmaceutical companies to keep exorbitant prices for their products for a long period of time.

HIV/AIDS organizations in different countries are seeking opportunities to increase access to medicines by removing evergreening patents. One of the powerful tools for removing evergreening patents are patent oppositions.

Methods: Patent opposition is a tool that allows individual or legal entity (mainly patient organization) to oppose a patent application. It may be submitted while
application is still under analysis by a patent office (pre-grant opposition) or after patent has been granted (post opposition) in 2003, civil society won its first battle in opposing a patent when Thai AIDS Foundation struck down BMS monopoly on the HIV/AIDS drug didanosine. At present day, patent oppositions are submitted by HIV/AIDS organizations in different countries around the world (Brazil, Argentina, Ukraine and others). Results: Summing up experience of patent oppositions submitted in different countries around the world, the following conclusions can be reached:

- Close cooperation and sharing of data among various patient organizations from different countries is very useful (sharing of scientific arguments, joint PR campaigns etc);
- Consultations with global advisors with top level scientific experts (such as I-MAK) are also very useful;
- Involvement of generic manufacturers in patent oppositions is a good idea. National and foreign generic manufacturers are interested in preventing patent monopolies and they may support patient organizations during patent opposition proceedings;
- Advocacy campaign to raise awareness of society, patent office, judges and health-care authorities about harmful influence of evergreening patents on public health is extremely important.

Conclusions: Patent opposition is an important tool for removing of evergreening patents and should be used more often for increasing access to HIV/AIDS treatment around the world.

**WEPED449 SUCCESSFUL DIALOGUE WITH PATENT OFFICE TO PREVENT PATENT MONOPOLY FOR MEDICINE IN ABSENCE OF FORMAL PRE-GRANT OPPOSITION PROCEDURE**

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Background: To ensure better economic affordability of one of the direct acting antivirals for treatment of hepatitis C that is very promising for treatment of people infected with HIV with co-infection within the project supported by IRF Ukraine so that in 2015 the ‘informal’ pre-grant patent opposition was tested in Ukraine on patent application filed by the originator company.

Description: Although, Ukrainian patent law does not set out any formal patent opposition procedure, the All-Ukrainian Network of People Living with HIV/AIDS (‘Network’) and involved patent attorneys conducted dialogue with the Ukrainian Patent Office on not enough inventive nature of pending patent application, the social importance of the patent application and potential public costs, if the patent is granted. As a result, the patent application, which was supposed to be granted in May 2015, was twice preliminary rejected by the Ukrainian Patent Office using provided by civil society arguments.

Lessons learned: The project shows that in absence of formal pre-grant opposition procedure it is still possible to conduct effective dialogue with the patent office to prevent granting unmerited patent monopolies. Strong arguments on novelty and inventive step played a key role in rejecting the patent application. Scientific arguments were prepared for the opposition by local patent attorneys and were strengthened with global support from I-MAK. Patent oppositions are easier to control for NGOs as it is not as dependent on political will of state authorities, as it is the case for compulsory licensing.

Conclusions/Next steps: For patients’ organizations pre-grant patent oppositions is a good instrument in work with patent monopolies, as it is easier to oppose patent application, than already granted patent. The IRF/Network project in Ukraine on opposition to patent application shows that it is possible to do successful ‘quasi’ pre-grant opposition by conducting close dialogue with patent office, using strong scientific and advocacy arguments, even in the absence of formal pre-grant opposition procedure provided by law. This creates opportunities for patients’ organizations in countries without formal pre-grant opposition procedure to be able to address anticipated unmerited patent monopolies for medicines.

**WEPED448 PATENT OPPORTINIES: BREAKING PATENT MONOPOLIES**

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Background: The availability of affordable generic ARVs from India has been crucial in providing and expanding treatment for millions of people living with HIV globally. The key contributing factor for this uninterrupted supply have been safeguards in the patent law enabling the generic companies to develop, register and supply generic versions of drugs patented elsewhere. After introduction of product patent regime in 2005 in India restricting entry of generics in the market, use of public health care authorities about harmful influence of evergreening patents on public health is extremely important.

Conclusions: Patent opposition is an important tool for removing of evergreening patents and should be used more often for increasing access to HIV/AIDS treatment around the world.

**WEPED450 USING PEER MOTIVATION TO UPSCALE NURSE INITIATED MANAGEMENT OF ART (NIMART) IMPLEMENTATION IN KWAZULU-NATAL**

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Background: Section 27(1) of the Constitution of South Africa provides that everyone has the right to have access to healthcare services. This places a duty on the government both from an administrative as well as an implementation point of view, through its employees, to provide health care services to its citizens. It is in the provision of these services that healthcare workers need to be guided by ethical principles to ensure that services are provided in a timely, safe and efficient manner to those deserving.

Description: 7 districts have been visited to record NIMART documentaries being told by nurses who are implementing NIMART at DoH facilities especially primary health care settings. Acknowledging the unavailability of skilled personnel whilst simultaneously rejecting the misuse of human resource shortages as justification for paralyzing the NSP had identified task-shifting as a priority. NIMART is one aspect of a broader strategy commonly referred to as task-shifting.

According to the WHO (2008:7), task shifting refers to a process of delegation whereby tasks are moved, where appropriate, to less specialized health workers so that by reorganizing the workforce in this way, task shifting can make more efficient use of the human resources currently available. Task-shifting in the form of NIMART has been advanced as one of the strategies through which the government and citizens of South Africa can make quick gains in reversing the devastating effects of this pandemic.

Lessons learned: Service areas that had previously not participated in ART services are now coming up with innovative ways of scaling up care using different service point and intervention.

Conclusions/Next steps: out of the 1722 trained nurses only 888 were ready for certification in September 2015, the documents have increased the number of nurses who are now demanding to complete their portfolios of evidence so that they can be recognized as NIMART trained nurses. The social proof theory states that when people are unsure of the action they should take they seek out the direc-
Policies and Indicators of Policy Effectiveness

WEPE451
AN ORGANIZATIONAL SELF-REFLECTION ON THE OPERATIONALIZATION OF THE GIPA/MIPA PRINCIPLES: ACCHO, A CASE STUDY

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Background: Acknowledging the importance of the GIPA/MIPA Principles in the response to HIV/AIDS, the African and Caribbean Council on HIV/AIDS in Ontario (ACCHO) embarked in a process to assess and improve the ways in which it meaningfully involves and/or creates opportunities for the participation of persons living with HIV/AIDS (PHAs).

Description: To gain an understanding of the ways in which ACCHO engaged and involved PHAs, all ACCHO staff members and some executive members completed a “MIPA Assessment Survey” developed by the NGO Code of Good Practice Project. This also involved one-on-one interviews focused on examining their perceptions of ACCHO’s MIPA practices at the time. The data collection methods were intended to be complementary, resulting in a well-informed evaluation process.

Conclusions/Next steps: ACCHO created a MIPA Committee consisting predominately of PHAs. This Committee organized a “MIPA Retreat” for ACCHO staff, executive members and other key stakeholders, where participants worked together to develop an action plan to improve ACCHO’s operationalization of the MIPA Principles. Since then, ACCHO has created a statement affirming its commitment to MIPA, which has been embedded in many ACCHO documents, including committee terms of reference, the collective agreement, etc. ACCHO also signed onto the Ontario Accord - a statement of solidarity with GIPA/MIPA. To this day, ACCHO continues to implement this action plan and to make improvements.

WEPE452
FROM POLICY TO PRACTICE: AN ANALYSIS OF TB-HIV INTEGRATION

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Background: Despite being preventable and treatable, TB is responsible for one out of three AIDS-related deaths. Recognizing the urgency of this co-epidemic, the WHO put forward guidelines outlining collaborative activities to fight TB and HIV together. ACTION analyzed the extent to which donor programs and national health policies included the roadmaps.

Description: The policy research focused on the WHO 41 High Burden TB-HIV countries. In addition to country National Strategic Plans, five donor agencies were chosen for review: the Global Fund to Fight AIDS, Tuberculosis and Malaria; the United States President’s Emergency Plan for AIDS Relief (PEPFAR); the United Kingdom Department for International Development (DFID); the United States Agency for International Development (USAID); and, the World Bank. All programs, grants, and National Strategic Plans were comprehensively reviewed for inclusion of the 12 WHO TB-HIV collaborative activities.

Lessons learned: Despite the WHO recommendations released four years ago, Analysis of donor programs and National Strategic Plans continue to show the burden of implementing collaborative TB-HIV activities falling heavily on TB programs and budgets, which have fewer resources than their HIV counterparts. TB grants had a budget one-eighth the size of HIV grants, yet allocated nearly three times the amount of TB-HIV funding.

Conclusions/Next steps: WHO recommendations to integrate TB and HIV programs have not been embraced equally across donors and implementing countries, and efforts to integrate TB and HIV are significantly under resourced. Increased funding, political will and collaboration between TB and HIV programs are needed to achieve the end of this deadly co-epidemic.

Monitoring and Evaluation of Policies and Their Impact on People Living with HIV and Key Populations

WEPE453
HIV POLICY IMPLEMENTATION IN SOUTH AFRICA: EVIDENCE FROM A NATIONAL POLICY REVIEW AND HEALTH FACILITY SURVEYS IN TWO RURAL DEMOGRAPHIC SURVEILLANCE SITES

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Background: Understanding contradictions between national HIV policies and their implementation in health facilities is essential for improving the effectiveness of national HIV programmes. This study compares national policies on HIV testing, prevention of mother-to-child transmission (PMTCT), antiretroviral therapy and reten- tion in care with survey data from health facilities serving the populations of two South African health and demographic surveillance sites (HDSS) in Agincourt and uMkhanyakude in order to assess implementation of national HIV policies.

Methods: Ten national HIV policy documents published in 2003-2015 were reviewed, with content extracted on implicit or explicit adherence to 54 pre-defined indicators likely to influence service access and retention in care across the HIV cascade. Purposively-sampled health facilities in Agincourt and uMkhanyakude (N=26) were surveyed in October 2013 to May 2014 using a structured questionnaire covering the same HIV services and indicators. Survey data were analysed descriptively and the findings compared to national policy indicators for each site.

Results: South African HIV policies closely adhered to WHO recommendations despite several gaps, notably in relation to quality of care, with health facilities in both sites reporting high client loads and limited refresh training in HIV testing and ART delivery. In terms of HIV treatment, facilities in both sites were weaker in terms of medical management and PLHIV support than in service coverage and access. There were policy gaps in relation to access to HIV treatment and retention in care, but these were often compensated for by practices in the facilities, notably in relation to provision of Option B+ which was provided in 88% of facilities in Agincourt and 22% in uMkhanyakude, despite the its absence from policy.

Conclusions: Despite numerous policy gaps for HIV testing, PMTCT, access to ART and retention in care, we found that implementation within health facilities was broadly similar across these two rural South African sites, and sometimes exceeded national recommendations. Future research should explore factors that facilitate or inhibit policy development and implementation, and assess whether differences in HIV service delivery are reflected in HIV mortality patterns in the two HDSS sites.

WEPE454
SECURING THE FUTURE OF WOMEN CENTERED CARE: A COMMUNITY -ASED ANALYSIS OF THE UNMET NEEDS OF WOMEN LIVING WITH HIV IN THE UNITED STATES

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Background: The Ryan White program is the largest payer of HIV-specific medical care in the United States, providing a range of medical and social support services. Ryan White is currently up for reauthorization, and the health care landscape for people with HIV is changing under Affordable Care Act implementation.
Methods: To determine the unique medical, social and structural support needs of women with HIV in the face of changing health care coverage, service delivery infrastructure, and quality of life concerns, Positive Women’s Network - USA (PWN-USA), a national membership body of women living with HIV (WLHIV) facilitated a community based participatory research project led and executed by 16 WLHIV to inform future advocacy. A survey addressing access to care and quality of care for WLHIV was developed by the 16 member research team. The survey was administered in eight geographic areas in the US. A total of 180 WLHIV completed surveys.

Results: Data revealed high levels of stigma and multiple barriers to care. Transportation presented the largest barrier to successful engagement in medical care (doctor visits and prescription refills) for women with HIV, whether in rural or urban areas. Nearly two-thirds of respondents had been diagnosed with depression, and 17% had been diagnosed with post-traumatic stress disorder. There was a large unmet need for mental health services and social support, including support groups. Sexual and reproductive healthcare was inconsistently available; less than half of respondents of reproductive age had been asked in the past year whether they were interested in getting pregnant and just over 40% had been informed by a provider that viral suppression would reduce the risk of onward HIV transmission.

Conclusions: As women with HIV are changing, so are care needs. Nearly five years after the data from HPTN 052 was published, treatment as prevention science still has not penetrated into communities of WLHIV in the US and sexual and reproductive healthcare (SRH) are standard. In future iterations, the Ryan White program will need to consider delivering SRH care to people with HIV of all ages and genders. Employment services must be integrated, and there is an urgent need to address transportation barriers.

WEPE456
SHifting POLice PRACTICES To SUpport HIV PREVention: inItial FINDings FROM An ASSESSMENT Of A POLice EDUCATION PROGRAM in A MEXICAN SETTING

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Background: In countries where people who inject drugs (PWID) are disproportionately affected by HIV, policing practices fuel behaviors that increase their vulnerability to HIV, viral hepatitis and STIs. Based on prior findings of adverse police encounters and prevalent extralegal police practice, we designed a police education program (PEP) for municipal police in Tijuana, Mexico. The training bundles occupational safety content with legal knowledge and harm reduction material to align policing practice with HIV prevention goals.

Methods: The PEP evaluation includes a pre- and post-training evaluation of all trainees on legal knowledge, harm reduction attitudes, autonomous support, and self-reported practices, to be administered to approximately 1200 active duty personnel of the Tijuana municipal police. A subsample of 500 officers is randomly selected to receive follow-up assessments at 3, 6, 12, 18, and 24 months in a modified stepped-wedge design. Univariate logistic regression with robust variance estimation using time as a within-subjects effect was used to assess the effect of time (follow-up vs. baseline) on various outcomes of interest.

Results: Among the 202 officers completing baseline and 3-mo follow-up thus far, we observed significant shifts between baseline and follow-up reports of risky occupational practices, including breaking syringes (OR=3.7; 95% Confidence Interval [CI]: 2.4–5.6) and discarding syringes in the trash (OR=3.5; 95%CI: 2.4–5.5). At follow-up, police were less likely to report and to share syringes (OR=4.1; CI: 2.9–5.9), heroin possession (OR=63; CI: 49.81) and more likely to report referring drug users to harm reduction services (OR=1.45; CI: 1.03–2.06). Respondents also exhibited improved knowledge, including in the domain of underestimation of the risk of HIV transmission (OR=2.04; CI: 1.56–2.65), heroin possession (OR=4.47; CI: 2.97–7.15), and marijuana possession (OR=3.34; CI: 2.32–5.49). Officers reported improved attitudes towards harm reduction programs, including opioid substitution therapy (OR=0.06 CI: 2.16–4.34) and syringe exchange (OR=2.09; CI: 1.13–3.72).

Conclusions: Although there a number of existing limited assessments of PEPs designed to align policing and HIV prevention exist, this is the first study to prospectively evaluate the impact of this structural intervention in a longitudinal cohort. Initial results indicate promise of PEP in shifting street-level police practices. Programmatic and policy implications are discussed.

WEPE457
Children (0-14) and HIV/AIDS Public Policies in Cameroon: A Critical Analysis

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Methods: Among initiatives directed at Orphans and Children made Vulnerable due to HIV/AIDS (OVC) or children whose survival, well-being and development are being compromised by HIV and AIDS have been implemented in Cameroon: the bi -multi -OVC program (2004-2008), the National Support Program for OVC (NSP-OVC 2006-2010) and the Children, HIV and AIDS program (2008-2012). Tracked and each of these initiatives stand a foreign and institutional operator (UNICEF, the French Cooperation, or the Global Fund). The implementation of these programs has been tricky and quite far from the intended goals. Less than 10% of children in need of treatment have access, and less than 2% of the budget have been dedicated to OVC. Actually, there is no specific program in the National Strategic Plan for children facing HIV/AIDS, despite stated objectives.

Methods: This paper outlines the social and political context that shaped the development of HIV/AIDS policies targeting children under fourteen. By highlighting the weaknesses of local policy entrepreneurs despite its numbers, but more specifically the passive attitude of program officials and community-based organizations, my aim is to show why the Cameroon government is failing to respond effectively to the spread of AIDS and its consequences among children.

Based on critical analysis of three National Strategic Plans, in-depth interviews with key stakeholders and observations in medical structures and non-governmental organizations, this study questions and analyzes structural factors such as decision-
making procedures, bureaucratic capacities, political leadership, financial resources and health system. I also question HIV/AIDS global policies, their transformations and their (re)appropriation in national and local contexts.

**Results:** A long-term and effective response to children with HIV/AIDS needs to target children’s health as a whole. Instead, each national program (malaria, vaccination, OVC, etc.) has a separate agenda, budget and actors. That means organizations and government policies must create and increase accessibility to health services for every child, especially those who are no longer with their mothers.

**Conclusions:** Children and HIV/AIDS public policies are hampered by institutional constraints, as a result of inappropriate and non-inclusive patterns of political leadership and global policies. There is a need to emphasize on school clinics all over the country.

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**WEPE458 LOBBYING FOR POLITICAL CHANGE UNDER ADVERSE POLITICAL CONDITIONS: LESSONS FROM ADVOCACY WORK IN NORTH CAROLINA**

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**Background:** Since 2010, the North Carolina AIDS Action Network has led advocacy and lobbying efforts in North Carolina (NC), a state in the southern United States, related to HIV/AIDS treatment and prevention.

**Description:** Currently there are 36,300 people living with HIV in NC and 7,278 (1,910 female, 5,310 male, 58 transgender) people are enrolled in the NC AIDS Drug Assistance Program (ADAP), which provides free HIV medication.

With the 2010 & 2012 state elections, political control of the NC General Assembly and Governor’s Office changed from the Democratic to the Republican Party. Since then, legislative leadership has largely opposed expansion of LGBTQ rights and significant investments in public health initiatives. Even under adverse political conditions, the HIV/AIDS advocacy movement has experienced successful outcomes by focusing on three key strategies:

1. Build a network/database of educated activists through grassroots organizing and digital outreach, focusing on individuals impacted directly and those living in political districts of key legislative leaders;
2. Sustain investment in building personal relationships with targeted legislators and staff in the NC Governor’s office and state health department;

**Lessons learned:** Legislators and lobbyists say that advocacy efforts in NC have had a critical role in achieving these positive outcomes over the last six years:

a. An increase in eligibility for ADAP from 125% of poverty level in 2011 (the lowest in the United States) to 300% in 2016.


c. Creation of an assistance program that reduces costs for patients who purchase their own health insurance. 90.97% of the 155 patients in the program are virally suppressed, compared to 82.12% of overall enrollment in 2016.

**Conclusions/Next steps:** Policy change is a multi-year process requiring long-term investment resources. Current HIV policy campaigns in North Carolina are focused significantly on public health initiatives. Whether legislation achieves its objectives and the goals of its drafters depends primarily on its implementation and enforcement. Yet, more than ten years after the first HIV-specific laws in Africa were gazetted; there is very little evidence of their effective implementation and enforcement. Serious gaps and concerns in the implementation literature for developing better statutes with the greatest potential for HIV/AIDS public policies are hampered by institutional constraints, as a result of inappropriate and non-inclusive patterns of political leadership and global policies. There is a need to emphasize on school clinics all over the country.

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**WEPE460 UNDERSTANDING AND ADDRESSING CHALLENGES TO THE EFFECTIVE IMPLEMENTATION OF HIV LEGISLATION IN SUB-SAHARAN AFRICA**

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**Background:** The law is an important structural tool that can influence individual behaviour, ensure the protection of those living with or vulnerable to HIV, and create the conditions for an effective AIDS response. As of 31 July 2014, 27 countries in sub-Saharan Africa had adopted HIV-specific legislation to address the legal issues raised by HIV.

Whether legislation achieves its objectives and the goals of its drafters depends primarily on its implementation and enforcement. Yet, more than ten years after the first HIV-specific laws in Africa were gazetted, there is very little evidence of their effective implementation and enforcement. Critical factors that explain the limited implementation of HIV-specific laws in sub-Saharan Africa are to be found in the intrinsic flaws in their normative content.

**Methods:** This study is based on a desk analysis of the implementation challenges that stem from the normative content of 26 HIV-specific laws adopted in sub-Saharan Africa. The analytical framework used in the review and analysis of the implementation challenges in these HIV-specific laws is based on themes and approaches described in the literature for developing better statutes with the greatest likelihood to be implemented.

**Results:** This study shows that drafters of HIV-specific laws in sub-Saharan Africa paid limited attention to intrinsic issues in these laws that might have ensured their effective implementation and enforcement. Serious gaps and concerns in the normative content of HIV laws help to understand why in so many countries, their implementation has been less than adequate. These gaps can be summarised into three key elements, namely: (i) the failure of HIV laws to uphold sound public health and human rights approaches; (ii) lack of clarity and vague provisions in these laws; and (iii) limited attention in HIV laws to implementing or monitoring entity.

**Conclusions:** More attention should be paid to the enforcement of protective provisions in HIV legislation. Efforts to develop or reform HIV legislation should include a clear focus on ensuring that key intrinsic flaws that compromise their effective implementation are addressed. These recommendations are also relevant for the development of other health legislation.
Conclusions/Next steps: By lobbying the Scottish government to include PrEP in the Sexual Health and Blood Bourne Virus Framework, PrEP has been placed high on the agenda of critical stakeholders, increasing the likelihood of timely inclusion of PrEP as part of the comprehensive prevention package provided by the NHS. This required a highly coordinated linking of political decision makers, funding bodies, clinicians and community members. We argue that HIV Scotland is uniquely placed to enable this work, bridging the gaps that exist between these influential parties.

ROLE OF MEDIA IN POLICY MAKING

WEPE463
KEY CORRESPONDENTS LAC: SIX YEARS AS THE COMMUNITY MEDIA OUTLET IN LATIN AMERICA

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Background: Key Correspondents LAC was launched in 2009 in Lima, in 2009, during AIDS Latin American Forum. Twenty community journalists were trained in the first workshop with a clear objective: bring the voices of Key populations, disseminate stories and information of the global and regional HIV the response, in order to generate political change.

Description: The Key Correspondents LAC team is now a network of more than 4 volunteer community based journalists, covering all LAC Spanish speaking countries, who join KC-Lac to speak their world and communicate their experiences and advocate/communicate with decision makers. Key Correspondents LAC also play a key role as the watchdog in issues regarding Global Fund grants implementation. In its first six years, thanks to the continued support of International HIV/AIDS Alliance and UNAIDS, Key Correspondents LAC Initiative trained five groups of community journalists, with a total of 150 young men and women, including gay men, transgender women and people with HIV, who developed and strengthened their abilities to write and tell their stories and what happens in their own communities.

At a total of 1260 articles have been published in Key Correspondents LAC, in Spanish, that has reached to more than 30,000 people per year around the world. Visit www.corresponsalesclave.org

Lessons learned:
1. Meaningful engagement of PLHA, young people and Key Population ensure that your stories are relevant.
2. You need to continuously replenish a volunteer based project.
3. You need to study and adapt media to new trends and technology, like social media, where youth member are critical.
4. Most of the articles need to target decision makers, use them as advocacy tools rather than covering events.
5. You need to be prepare to cover recent new, even some developments that happen on the same day.
6. People in countries and regions that speak other languages than English needs these tools to learn what is happening worldwide.

Conclusions/Next steps: People have the power to access to information. Communities are now using media and social media for change. We must support the mass auto-communication where people build their relevant news. Media is about improving citizen quality of life and watchdog decision makers including governments. You could engage and train people visually.

WEPE464
LOUD MEDIA CAMPAIGN IS THE MOST EFFICIENT INSTRUMENT TO OVERCOME CORRUPTION DURING PUBLIC PROCUREMENTS

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Background: Over 40% of public funds have been stolen during the national drugs procurement for people living with HIV, tuberculosis and hepatitis because of corruption schemes in the Ministry of Health of Ukraine. It amounts approximately USD 50 million per year. Every day around 1600 Ukrainians die due to the lack of medicines in Ukraine.

Description: For more than a year CF “Patients of Ukraine” has been fighting to transfer the function of medicine procurement from the MoH to international organizations. It is the only efficient instrument that will allow to overcome corruption
WEPE6D46
HOW THE MEDIA PREPPED THE WORLD FOR A NEW HIV PREVENTION OPTION: AN ANALYSIS OF PREP IN THE MEDIA FROM 2009-2015
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Background: Media coverage plays an important part in acceptance of new public health interventions. Coverage of oral tenofovir-based pre-exposure prophylaxis (PrEP) has been increasing since 2009. We analyzed media coverage to determine:

- Number of articles published over time and correlation with PrEP milestones.
- Geographic distribution of articles.
- How media’s perception of PrEP changed over time.

Methods: Using news monitoring site, we conducted a search of keywords related to HIV and PrEP from Jan 1, 2009 through Dec. 31, 2015 among 300,000 news sources. Removing duplicate and irrelevant articles, we calculated numbers of articles per year and where peaks occur. We analyzed content and tone of subset of articles around PrEP milestones to determine how journalists’ knowledge and perceptions of PrEP changed.

Results: From 2009-2012 peaks in PrEP coverage correlate with positive results from iPrEx and Partners PrEP, along with US FDA approval of Truvada. Flat results of PrEP changed.

Conclusions/Next steps: As we move from MDGs to SDGs, global conversation shifts. In 2015, an increase in tweets associated with an integrative approach, (e.g., community).

Lessons learned: Topics tweeted ≥35 times were visualized (Figure 1). Results show decrease in frequency of tweets associated with fighting to end HIV and achieving an AIDS-free generation. In 2015, an increase in tweets associated with an integrative approach, (e.g., community).

Figure 1. 2015 Shift in HIV/AIDS Tweet Public Sentiment from World AIDS Day tweets in 2014 and 2015

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Conclusions/Next steps: As we move from MDGs to SDGs, global conversation shifts are apparent. An increase in tweets regarding a universal, integrative approach speaks to the SDGs theme. However, a decrease in tweets regarding an active fight to end the pandemic and achieving an AIDS-free generation must be explored. Public motivation is critical in meeting the 2030 agenda and must be addressed.

PLHV IN AFRICA DEMAND FOR VIRAL LOAD TESTING AS THE GOLD STANDARD FOR MONITORING HIV

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Background: In 2013, Zambia adapted its Consolidated Guidelines for Treatment and Prevention of HIV infection to be in line with the World health Organization June 2013 Consolidated Guidelines on the use of Antiretroviral Drugs for Treating and Preventing HIV infection. One of the key recommendations in the guidelines is the use of viral load testing as the preferred monitoring approach to determine the performance of cART in an individual.

Description: ARASA and ITPC conducted short surveys in Botswana, Cameroon, Côte’d’Ivoire, Egypt, Kenya, Malawi, Morocco, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe where it was established that CDA testing was the standard test in use to monitor HIV in individuals even though the WHO guidelines state that viral load testing should be the gold standard for monitoring HIV. On 30th October 2015, the Viral Load campaign was launched in the 12 countries where the survey was conducted. The main launch was held in Zambia because the country had already adapted and rolled out the implementation of the WHO June 2013 guidelines. Through TALC and its partners, 6 petitions were presented to the Minister of Gender who was representing the Minister of Health, WHO Country Representative, UNAIDS Country Representative, PEPFAR Country Coordinator, High Commissioner of Malawi, COMESA and the National AIDS Council demanding the immediate roll out of Viral Load Testing as the gold standard to monitor HIV in individuals.

Lessons learned: Zambia has now rolled out viral load testing to all people living with HIV in line with the new guidelines. Once policy makers realize that citizens know their entitlements, and demand for them, they are bound to find the resources required to fulfill their obligations. If citizens remain ignorant of their rights, policy makers will always take advantage of them and not meet their obligations.

Conclusions/Next steps: Citizens must hold their leaders and policy makers accountable to implement and roll out promises they make when they sign international treaties and agreements. Other countries in Africa must adopt the model implemented in Zambia as a best practice for policy advocacy.

UNDERSTANDING AND OPTIMIZING THE LANDSCAPE OF ANTIRETROVIRAL TREATMENT REGIMENS IN RUSSIA: RESULTS AND RECOMMENDATIONS BASED ON ART PROCUREMENT MONITORING PROJECT IN 2015

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Background: Russia remains among the fastest-growing HIV epidemics. The number of people receiving treatment based on official estimates is approximately 200,000. The country has faced numerous access-related challenges: drug stock-outs, limited access to preferred options (including tenofovir) and fixed-dose combinations (FDCs). “Treatment Preparedness Coalition” has been analysing the government procurement programme to identify gaps and elaborate recommendations for enhancing treatment access.

Methods: In 2015, 2380 contracts were included into the analysis (excluding paediatric formulations). The analysis included 28 international non-proprietary names of antiretroviral drugs registered in Russia based on the website gits.rusministva.ru. The drugs were divided into three groups: nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs); non-nucleoside reverse transcriptase inhibitors, protease inhibitors (including ritonavir), integrase inhibitors, CCR5 inhibitors, and fusion inhibitors; and FDCs containing complete regimens. The number of patients per year for each drug was calculated by diving the total amount of items purchased by the recommended daily dose and 365. The number of patients who could potentially receive treatment was calculated based on the number of third drugs and the number of possible combinations of NRTIs assuming that each combination should contain either 3TC or FTC. The total sum of FDCs containing complete regimens was added to the total number of third-drug regimens.

Results: In total, approximately 158,000 patients could receive treatment based on the sum of third drugs and FDCs containing complete regimens. The most widely used third drugs are lopinavir/ritonavir (54,500) and efavirenz (53,000). In the NRTI group, the number of patients who could potentially receive regimens containing either 3TC or FTC is approximately 134,300. The number of patients who could potentially receive TDF-based regimens is approximately 4000; the number of DT/T-based regimens is 8,600. The number of patients receiving FDCs containing complete regimens (ABC/3TC/ATV; 3TC/ATV/NVP; FTC/TDF/RPV) is 250.

Conclusions: The number of patients who could potentially receive antiretroviral treatment in Russia can be 20% lower than the official estimates. Only 2.5% receive TDF-based regimens. Less than 1% receive FDCs containing complete regimens; none of them receives the preferred WHO option 3TC/FTC as a single pill. These data should be used as a basis for optimizing procurement and provision policy.

COMMUNITY ENGAGEMENT IN UNIVERSAL ACCESS TO DAA HEPATITIS C TREATMENT: THE PORTUGUESE CASE

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Background: Moving from low efficacy and high adverse events rate regimens to new DAA’s was a priority in Portugal from 2013 to 2015. Special nominative authorisations were possible, but less than 100 people accessed new treatments. Several meetings took place (Sitges 2007-2014, FDA and EMA consultations, 2008) and position papers were issued between 2009 and 2014, along with bilateral meetings with government officials and pharmaceutical industry representatives; pressure for an agreement led the agenda.
**WEPED472**

**INTRODUCING RIGHTS-BASED HIV PROJECT IN MYANMAR (REACTION) AND ITS IMPACT**

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**Background:** According to sentinel surveillance, HIV prevalence among female sex workers aged 15-19 and 20-24 was 5.5% and 7.9% respectively (2013), compared to adult HIV prevalence at 0.53% (2011). UNAIDS (2014) estimated that 23 percent of HIV-infections in Yangon and Mandalay occurred among sex workers. Government of Myanmar and UN figures (2013) estimate that 40,000 to 80,000 of Myanmar women aged 15 to 49 are engaged in paid sex work. The Suppression of Prostitution Act 1949 criminalizes sex work with penalties of imprisonment of one to three years. The Act also limits sex workers’ access to health-care and makes them vulnerable to threats and harassment from law enforcement.

**Description:** The REA (Rights, Evidence and Action) project, a community-based monitoring and response system on human rights-related barriers to accessing HIV and health services, was started in Myanmar at the end of 2014. The Alliance in Myanmar works with four CBs (2 for sex workers and 2 for MSM) to monitor and document cases of rights violations experienced by young people from key population groups. The beneficiaries receive emergency responses and support and refer to a continuum of HIV, SRH, health and legal services.

**Lessons learned:** A total of 47 cases were documented using REA. 10 cases from young men who have sex with men were documented and have resulted in all of the individuals being released from arrest. Of the 37 sex worker cases 13 are still in custody of law enforcement, despite all of the legal aid and services provided. We found that sex workers generally lack awareness about their arrest rights and because of their low legal literacy they are easy prey to police intimidation and harassment.

**Conclusions/Next steps:** In addition to documenting cases and providing emergency responses, additional skills in legal literacy and skills and negotiation are needed amongst sex workers and MSM. REA data can be used to gain support and support policy makers and law enforcement to understand the impact of criminalization on HIV risk and key populations.

**WEPEE473**

**REDUCING LOSS TO FOLLOW-UP AMONG HIV EXPOSED INFANT IN MANICA AND SOFALA PROVINCES IN CENTRAL MOZAMBIQUE**

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**Background:** To reduce mother to child HIV transmission to less than 5% by 2015, care improvement in pediatric HIV care and early ART for HIV-positive infants are strategic priorities for the Mozambican Ministry of Health (MOH). Beira Operations Research Center, is conducting an implementation research study to address high postpartum (PP) loss to follow-up (LFU) of mothers and HIV-exposed infants in six health facilities in the Sofala and Manica provinces of central Mozambique.

**Description:** The study goals is to determine early diagnosis time among HIV-exposed infants in central Mozambique, determine the proportions of HIV-exposed infants from FP-care enrolled in CCR and pediatric HIV care. Determine the proportion of HIV-positive PP mothers provided with FP services.

**Lessons learned:** The waiting time from PCR sample collection to sending of the sample to the laboratory ranged from 1 to 12 days with an average of 5 days. The waiting time since sample was send to the referral lab and arrival at HF ranged from 14 to 43 days with an average of 28 days. The waiting time from sample collection to initiation of ART ranged from 35 to 136 days with an average of 86 days. The median age of HIV diagnosis was 3 months, minimal of 2 and maximal of 18 months. We learn that no early HIV infant diagnosis is occurring in central Mozambique and we need some intervention to address the challenge.

**Conclusions/Next steps:** Despite the efforts undertaken at the HF level to reduce time of HIV diagnosis in HIV exposed infant, there are still many difficulties in this process. The waiting time for PCR test results continues to be a big gap hinder-
ing early diagnosis of HIV in exposed infants and delaying early initiation of ART. At the community level stigma is still high for HIV positive people, interfering with initiation and retention in HIV care services. And NEX step is to design and conduct an intervention to improve retention of HIV exposed infant and they mothers in cascade of care.

WEPE474
EVALUATING HIV PREVENTION PROGRAMS DELIVERED BY CDC-FUNDED COMMUNITY-BASED ORGANIZATIONS IN THE UNITED STATES

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Background: Since the late 1980s, CDC has partnered with community-based organizations (CBOs) to expand the reach of HIV prevention in affected communities. Because of their accessibility, history, and credibility in the community, CBOs are important partners in providing comprehensive high-impact HIV prevention (HIP) to people living with and at greatest risk for HIV infection.

Description: To reach populations lacking access to treatment, prevention, care and support services, CDC currently funds U.S. CBOs to deliver HIP through two Funding Opportunity Announcements (FOAs). PS11-1113 (September 11, 2011 - September 2016) funds 34 CBOs to provide HIV prevention to young men of color who have sex with men and young transgender persons of color and their partners; PS15-1502 (July 2015-June 2020) funds 90 CBOs to reach members of racial/ethnic minority communities and members of groups at highest risk for acquiring and transmitting HIV, regardless of race/ethnicity.

CBO developed Rapid Feedback Reports (RFRs), one of several mechanisms, to describe program achievement and progress towards meeting FOA goals for PS11-1113.

Lessons learned: RFRs use data reported by CBOs in Annual Progress Reports. In three years of funding, PS11-1113 CBOs conducted HIV testing among 41,350 individuals, identified 1,294 new HIV-positive individuals, and linked 84% of newly identified HIV-positive individuals to HIV medical care.

CBO used RFRs to inform HIV testing priorities, share best practices with other CBOs, and enhance funding applications and reports. RFRs also stimulated discussion at CDC about how to best measure CBOs’ performance.

Conclusion/Next steps: RFRs are a first step in evaluating CBO HIV prevention program performance. For PS15-1502, CDC will expand data sources to include National HIV Prevention Program Monitoring & Evaluation (NHM&E) data and continue to incorporate other mechanisms for providing feedback for continuous program improvement.

WEPE475
TREKKING THE JOURNEY ALONG THE HIV CASCADE: TRENDS IN TRANSITION TIMES FROM HIV DIAGNOSIS TO ENROLLMENT IN CARE AND ART INITIATION, NAMIBIA 2003-2015

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Background: Recent studies have demonstrated immense individual and public health benefits when antiretroviral therapy (ART) is initiated early and patients achieve viral load (VL) suppression. This has prompted WHO to introduce new test-and-treat guidelines recommending ART for all patients living with HIV. We investigated trends in transition times from HIV diagnosis to the time of ART initiation and the median CD4 cell counts among patients enrolling in HIV program in Namibia.

Description: We performed a retrospective cohort analysis of a complete census data of patients enrolling in HIV program during 2003 - 2015. We evaluated transition from HIV diagnosis to enrollment in care and time from enrollment in care to ART initiation. Differences in percentiles by gender and age group we assessed by comparing quartile regression.

Lessons learned: 224,099 patients (63%; Females) were included in the study comprising 209,624 adults (≥ 15 years) and 14,475 children. During the evaluation period, the median time from HIV diagnosis to enrollment in care declined from 387 (IQR, 67-1305) days to 8 (IQR, 0-37) days among adults, and from 423 (IQR,59-601) days to 7 (IQR,1-32) days among children. Median times from HIV diagnosis to enrollment in care were significantly higher throughout study period (p< 0.01) for adult females.

The median time from enrollment into care to adult ART initiation steadily increased from 0 (IQR,0-21) days in 2003 to a peak of 105 (IQR,29-665) days in 2011 before declining to 28 (IQR,4-240) days in 2015. The median time from enrollment into care to pediatric ART initiation steadily increased from 0 (IQR,0-14) days in 2003 to a peak of 43 (IQR,16-213) days in 2011 before declining to 10 (IQR,0-35) days by 2015. The median CD4 count among adults at ART initiation increased from 108 (IQR,57-177) cells/µL in 2003 to 297 (IQR,163-426) cells/µL in 2015.

Conclusion/Next steps: To maximize individual and public health benefits of ART, programmatic monitoring of time from HIV diagnosis to ART initiation should become important quality measures of HIV programmes. Namibia HIV program will maximally benefit from early ART initiation by implementing interventions to reduce transition times from HIV diagnosis to ART initiation.
WEPEE477
EVALUATION OF HIV CARE QUALITY INDICATORS DURING THE IMPLEMENTATION OF ELECTRONIC MEDICAL RECORDS IN A LARGE SUB-SAHARAN HOSPITAL IN KENYA

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Background: The revision of the WHO guidelines will result in an unprecedented increase in individuals requiring HIV care and treatment. Monitoring of quality of care will require robust systems. Previous studies have reported improved completeness of medical records, reduction of errors and ease of patient outcomes data analysis through electronic medical records (EMR) implementation. Little is known about variations in quality of care and the performance of HIV care indicators during and after EMR implementation. The objective of this study was to evaluate EMR as a quality improvement tool during EMR implementation.

Methods: A cross-sectional study design was used to analyse data from 466 patients. Bi-phasic EMR implementation comprising of a paper based central data entry step followed by a transition to real-time (provider based) EMR. Repeated measures methods were used to test the changes in documentation of HIV quality of care indicators (Cochran’s Q test) and mean time interval between CD4 tests (Friedman’s test) in the three implementation phases, Paired comparisons were carried out using McNemar’s test and Wilcoxon matched pair signed test.

Results: Documentation of quality of care indicators improved as data management system transitioned to provider-based EMR. Documentation of weight improved significantly (p<0.001) throughout the implementation period from 89.5% Pre-EMR to 100% in the provider-based EMR period. Both TB screening and adherence assessment documentation by clinicians increased significantly throughout all the EMR implementation phase (p<0.001). Documentation of laboratory tests increased during real-time EMR from 90.3% to 92.9% (p<0.001) but did not significantly improve during the paper-based central data entry phase. This study reported significant (p<0.001) improvement in clinicians’ compliance to CD4 patient monitoring guidelines from a median time interval of 9 months (IQR 6.0-14.0 months) between CD4 testing pre-EMR phase to 6 months (IQR 5.0-7.0 months) during the real-time EMR.

Conclusions: In the background of expected increased in numbers enrolled in HIV care, this study finds the implementation of provider based ‘real-time’ electronic medical records beneficial in the improvement of HIV quality of care.

WEPEE478
CONTRIBUTING FACTORS OF LOSS TO FOLLOW-UP OF HIV EXPOSED CHILDREN IN CENTRAL MOZAMBIQUE

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Background: Early diagnosis of HIV infection in children is fundamental to ensure early treatment and reduce the mortality of HIV-infected children. In Mozambique, HIV prevalence is 11.5% (IDS-2011) and the retention of HIV exposed infants in the cascade of care is less than 50%. COBiH is conducting a study to determine the factors contributing to loss to follow-up (LTFU) of HIV exposed infants.

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Methods: Cross-sectional study with mixed methodology and design of the intervention were escalated based on formative research studies. Study population was HIV+ exposed infants identified in post-partum clinic and in the high risk child clinic. Six health facilities, all of which offer Option B+, were selected to be study sites. They are all located in the Beira Corridor (Munhava, Macurungo, Dondo, Primeiro-de-Maio, Nhamaonha and Gondola). We observed waiting times, collected registry data, and conducted individual and group interviews. Data was analyzed using Excel.

Results: Waiting times of 240 HIV+ women were observed. The median of waiting time at CCR was 94 minutes (maximum time 5 hours) average time spent at health facility was roughly 5 hours (4 hours 57 min). Median turnaround time for PCR results to the health facility was 28 days (max 65 days) in Manica province and 24 days (max 82) in Sofala province. PCR results were communicated to caregivers with an average time of 30 days (max 120 days) in Manica province and 28 days (max 100 days) in Sofala. Trimmune baby was frequently stocked out at health centers (maximum time 7 days). Focus groups identified stigma as a major contributing factor (in 87% of respondents) in loss to follow up as was lack of male involvement.

Conclusions: LTFU of HIV exposed infants occurs in all stages of the cascade of care, but particular weaknesses were identified in high risk child clinic and ART clinic. Prolonged wait times for services, delays in receiving PCR results, stigma and lack of male involvement were all found to contribute to LTFU and poor retention of HIV exposed infants.

WEPEE479
ANALYZING QUALITY OF CARE OF ANTIRETROVIRAL TREATMENT IN NIGERIA: AN APPLICATION OF ITEM RESPONSE THEORY (IRT) METHODS

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Background: Substandard quality of care of Antiretroviral treatment (ART) accounts for the largest losses in survival and quality of life, because treatment effectiveness is maximized when patients receive proper regimens of antiretroviral drugs and other elements of care such as psychological and nutritional support are provided. Proper measures of health providers’ levels of competence - or knowledge - are scarce in the literature of HIV health services. We analyzed medical vignettes data from the ORPHEN study of costs and quality in Nigeria.

Methods: We used data from 115 facilities providing ART services in Nigeria. Medical vignettes were developed according to WHO and country-specific treatment guidelines, and administered to a sample of 146 doctors, 58 nurses and 51 counselors (n=255), to assess knowledge of the content of baseline and follow-up examinations. The data were analyzed using Item Response Theory (IRT) methods, in order to select the critical elements that distinguish between providers with high and low competence. A competence score was generated with Principal Component Analysis (PCA) and Pearson correlations with provider and facility characteristics are reported.

Results: The location parameter of the logistic equations showed that the most significant items (i.e., those items that contributed the most to answer correctly) at baseline clinical evaluation were: i) staging with immunological classification, ii) development of adherence strategy, iii) evaluate nutritional status, and iv) evaluate psychological status. For follow-up evaluation of eligible ART patients, most of difficult items were: i) check for cancers, ii) check for pregnancy, iii) ask about fatigue and iv) ask about appetite changes. Bivariate analyses showed that patient load and the number of hours/week correlated positively with competence. With respect to facility characteristics, no differences in competence were found between public and private facilities, or between levels of care.

Conclusions: The analysis showed that medical vignettes of ART provide sensible data to obtain plausible and accurate indicators of competence. Substantial variation in the competence score was found in the sample, which suggests opportunities for improvement. Provider characteristics related to different levels of competence can assist in hypothesis generation of the supply-side determinants of quality of care and its trade-off with cost-efficiency.

WEPEE480
CONDUCTING EXTERNAL QUALITY ASSESSMENTS FOR VOLUNTARY MAMAL MEDICAL CIRCUMCISION (VMMC) PROGRAMS: EXPERIENCES FROM FOUR COUNTRIES

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Background: Funding from the President’s Emergency Plan for AIDS Relief (PEPFAR) has been supporting implementation of Voluntary Medical male circumcision (VMMC) programs in 34 priority countries, since 2010. In order to ensure VMMC quality, External Quality Assessments (EQAs) were conducted at selected sites within these countries, by interagency (CDC and USAID) PEFAR teams. In 2014, additional PEFAR reporting requirements (SIMS) necessitated identification of a more efficient system of data collection to facilitate the VMMC EQA process. The USAID ASSIST project was funded to develop a VMMC EQA mobile application, as well as to support USG EQA teams in 4 countries. This paper describes these experiences.

Description: From Sep2015-Jan2016 four EQA/SIMS visits were conducted, in Swaziland, Lesotho, Zimbabwe and Tanzania. USG EQA teams comprising staff from OHA, in-country USAID missions, USAID ASSIST, HC3-JHU and MOH conducted a total of 24 site-level EQA/SIMS visits. In all countries there were 2-3 EQA teams.
Each team comprised between 5-8 members, and visited 4-7 sites over a five day period. At each site, a joint EQA / SIMS tool derived from WHO/UNAIDS normative standards and PEPFAR SIMS guidance was used. The EQA team performed document and chart reviews; observations of facilities, VMMC procedures, equipment and clients; and discussions with key personnel at the site. Site-level data was collected and the team also observed in-person communication, group and individual counseling, VMMC procedures and follow up review. Briefing and debriefing meetings were held with MOH and in-country USAID missions prior to and following EQA/SIMS visits. Detailed site-level and country-level EQA and SIMS reports were provided to USAID 2-3 weeks following the EQA/SIMS visits. All four countries responded enthusiastically to the joint EQA/SIMS visits.

Lessons learned: Conducting joint EQA/SIMS visits has allowed for greater program efficiencies and reductions in costs, as one site visit may be utilized to fulfill two purposes. It has also allowed for creativity, innovation and improvement in the overall EQA design and process, through engagement of various stakeholders, including USAID.

Conclusions/Next steps: The success of joint VMMC EQA/SIMS visits can be attributed to the engagement of various stakeholders working towards a common goal.

WEPEE481

THE PREVALENCE, TYPES OF ERRORS AND FACTORS ASSOCIATED WITH IRRATIONAL PRESCRIPTIONS OF ANTIRETROVIRAL THERAPY FOR CHILDREN UNDER 15 YEARS IN EAST CENTRAL UGANDA


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Background: HAART is instrumental in improving growth and immune responses in HIV-infected children. To be beneficial, children must receive HAART according to standard treatment guidelines. However, prescribing HAART in children is complicated by weight bands, age, CD4 counts, PMTCT exposure and TB co-infection creating high chances of error, failure to achieve desired treatment response and development of ARV resistance. The level of irrational prescriptions and associated factors is unknown in Uganda.

Methods: We conducted a retrospective cross-sectional study in one public and one private hospital in East Central Uganda, between April and September 2013. Data on prescriptions for children under 15 years was collected from patient files. We reviewed facility records to determine site-specific factors and prescribers completed semi-structured questionnaires to highlight prescriber-related reasons for errors. Data was entered into Epi data software and analyzed using STATA.

Results: A total of 166 children were observed, 63% from the private facility and 37% from the public health center. Overall, 58.4% (n=97) of children had at least one irrational ARV prescription. 71.1% of these were from the private site. While in the public facility most (60.7%) of the children had one irrational prescription, in the private setting, majority (46.1%) had 2-4 irrational prescriptions. All 12 children newly initiated on ART had an irrational prescription. Errors of commission, majorly prescribing adult formulations, were the commonest types of errors (71%) followed by integration errors such as regimens that were not HAART, and prescribers PEPFAR’s Site Improvement through Monitoring Systems (SIMS) as a standard approach. Type of errors (71%) followed by integration errors such as regimens that were not HAART. 71.1% of these were from the private site. While in the public facility most (60.7%) of the children had one irrational prescription, in the private setting, majority (46.1%) had 2-4 irrational prescriptions. All 12 children newly initiated on ART had an irrational prescription. Errors of commission, majorly prescribing adult formulations, were the commonest types of errors (71%) followed by integration errors such as regimens that were not HAART, and prescribers

WEPEE482

CLIENTS’ PERCEPTIONS AND SATISFACTION WITH HIV COUNSELLING AND TESTING: A CROSS-SECTIONAL STUDY IN SOUTH AFRICAN HEALTH FACILITIES

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Background: Client satisfaction serves as a predictor for acceptance of HIV Counselling and testing (HCT) services. Hence, clients’ perception and satisfaction studies provide insight to improving HCT programmes in many countries.

Conclusions: The aim of this study was to assess clients’ satisfaction with HCT as well as describe perceived barriers and facilitators of HIV testing by HCT clients in South Africa.

Methods: A cross-sectional survey was conducted through interviews with 494 clients purposefully selected at the end of an HCT visit at 56 HCT sites throughout the country.

Results: All study participants had tested for HIV with 98.8% receiving their results. The vast majority (75.5%) of clients reported that they had decided to be tested for HIV by themselves. Most participants were females (62.2%) as compared to males (37.8%). High levels of satisfaction with HCT service (89.6%), low levels (27.7%) of difficulty in making the decision to have an HIV test, and the high levels of perceived confidentiality (94.6%) of the HIV test results, were reported in this study. The most cited perceived barrier to HIV testing was lack of awareness about the HCT service (98%), while staff attitudes (37%), confidentiality (29.6%) and privacy (23.6%) were perceived facilitators. In logistic regression, sex, age, relationship status, facility type, geometry, length of time for counselling, length of time to receive HIV test results and staff attitude, were not statistically significant predictors of clients’ satisfaction.

Conclusions: When adjusted for all the other factors, staff attitude was statistically significant in predicting client satisfaction.

WEPEE483

IMPROVING HEALTHCARE SERVICE DELIVERY TO PLHIV THROUGH THE DUAL ADMINISTRATION OF A STANDARDIZED MONITORING TOOL AND TARGETED CAPACITY-BUILDING: EXPERIENCES FROM KEBBI STATE, NORTHERN NIGERIA

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Background: Despite efforts to improve Tuberculosis (TB) and HIV collaborative services to PLHIV in Nigeria, delivery of these services remains low. Management Sciences for Health implements the USAID-funded ProACT Project which administers PEPFAR’s Site Improvement through Monitoring Systems (SIMS) as a standardized monitoring tool for assessing quality of service delivery at site-level. This study examined the effect of the dual administration of the SIMS tool at routine facility visits and targeted capacity building of health workforce, on improving HIV service delivery at Sir Yaya Memorial Hospital (SYYM) a government-owned secondary health facility in Kebbi State, Northern Nigeria.

Description: The SIMS Tool was administered at SYYM on 9th June 2015 to assess two Core Essential Elements (CCEE)s of HIV service delivery; provision of routine HIV testing and counseling to all adult and adolescent Tuberculosis patients and routine HIV testing in children. This revealed that 30% of HIV-positive adult TB patients had documentation of ART initiation and 0% of pediatric in-patients had documented HIV testing and counseling. An innovative approach that involved targeted monitoring of the Directly Observed Therapy Short Course (DOTS) focal person on appropriate documentation in the Tuberculosis Register and conducting a Continuing Medical Education program for Physicians and Nurses on HIV testing in pediatric patients, was developed and implemented. The SIMS Tool was re-administered on 15th July 2015 and 2nd October 2015 to assess the same CCEs.

Lessons learned: Documentation of ART initiation in HIV-positive adult TB patients increased to 70% (2nd visit) and 80% (3rd visit), while HTC for pediatric in-patients remained at 0% at the 2nd visit but rose to 70% by the 3rd visit.
Conclusions/Next steps: The implementation of the SIMS standardized monitoring tool (SIMS) at the site-level to assess the quality of healthcare services was beneficial to tailoring interventions to address noted gaps. Developing healthcare workforce capacity to conduct HIV testing within TB departments, establish adequate complete referral systems between departments and manage co-infected patients are vital to the implementation of quality TB-HIV collaborative services. This intervention was shown to improve healthcare service delivery to PLHIVs in Kebbi State, Northern Nigeria.

WEPEE484

HEALTHCARE TRANSITION PRACTICES ACROSS THE BAYLOR COLLEGE OF MEDICINE INTERNATIONAL PEDIATRIC AIDS INITIATIVE (BIPAI) NETWORK OF PEDIATRIC HIV CLINICS

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Background: The Baylor College of Medicine International Pediatric AIDS Initiative (BIPAI) network has provided care to over 250,000 HIV-infected and -exposed children and youth resulting in a large number of youth that will transition from pediatric- to adult-model care. The purpose of this study is to describe the characteristics and current healthcare transition practices of BIPAI clinics in order to assess transition-related needs and identify ways to improve the transition process.

Methods: Seven of eight BIPAI sites responded to a 40-item survey: Gaborone, Botswana; Maseno, Kenya; Lilongwe, Malawi; Mbabane, Swaziland; Mbeya, Tanzania; Mwanza, Tanzania; and Houston, Texas, USA. The survey elicited information about clinic staffing, patient demographics, current healthcare transition-related activities, and perceived barriers to youth healthcare transition.

Results:

Demographics: A total of 16,453 active patients were enrolled at the 7 sites, ranging from 127 to 5320 patients per site; 53% were female, 18.6% were adolescents (15-19 years), and 17% were youth ≥20 years of age. Almost all patients were perinatally infected.

Clinic Structure: Each clinic described a multidisciplinary model of care including medical and psychosocial services as well as significant additional support services for adolescent and young adult patients including support groups, nutritional support, camps, and life skills education.

Transitioning: A total of 263 patients were transferred from BIPAI clinics in the past year. The number of patients transitioned ranged from 5 to 87 patients per site. Reasons for transitioning patients included age, pregnancy and changes in residence, school and/or work location. Clinic respondents cited concerns regarding transition-readiness of patients and the lack of support services outside of the pediatric clinic as potential barriers to healthcare transition.

Conclusions: Across the BIPAI network there is a significant and rapidly increasing number of patients to transition to adult-model care. The number of patients transitioned varied widely by site due in part to concerns about patient readiness and the potential loss of services available in the pediatric clinic. Improving patient readiness and active linkage to community support services may reduce resistance to transition. A systematic evaluation and improvement of the transition process at each site and follow-up of those who have transitioned is recommended.

WEPEE486

THE PEFPAR PIVOT: ENGAGING ORGANIZATIONS LED BY KEY POPULATIONS TO MAXIMIZE REACH

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Background: The United States’ President’s Emergency Plan For AIDS Relief (PEPFAR) is transitioning its focus from direct service delivery to technical assistance and collaborative support. PEPFAR has continued to shift its support to programming for key populations (KPs) most-at-risk for HIV and simultaneously building capacity for KPs service delivery, promoting targeted, evidence-based interventions for these groups.

Description: This ‘Pivot’ has streamlined service provision in strategically positioned areas where KPs are concentrated; it focuses on Region 4 of Guyana - the most densely populated administrative region - where the most reported cases of HIV positives were recorded, and primarily reaching men who have sex with men (MSM), transgender persons, and sex workers. Since the shift, KP-led organizations have recorded a surge in the numbers of KPs that have been met with HIV Prevention Interventions, including Voluntary Counselling and Testing for HIV (VCT). The KP-led organizations subsequently included through contract with USAID’s Advancing Partners and Communities (APC) Project showed significant improve- men in contributing to meeting targets for the fiscal year, with these organizations contributing 33% of the overall reach, despite only joining the project for the last four (4) months.

Lessons learned: As the findings demonstrate, KP-led organizations have proven to be more effective at reaching their peers with HIV prevention interventions in the Guyana context. Given the data above, of the eight (8) total grantees now under the project, only three (3) were providing HIV prevention services for KPs, which showed a 94% contribution to the total number of persons tested, as compared to 52% just four (4) months before.

Conclusions/Next steps: Given this evidence, national AIDS programs and donor partners should engage KP-led organizations to reach their peers and maximize uptake of HIV prevention services among KPs. This greater involvement of KPs, as a fundamental strategy, will demonstrate more effective results towards universal access.

WEPEE486

TELEPHONIC DEFAULTER TRACING BY MENTOR MOTHERS

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Background: An EMICTCT strategic framework launched in 2012 by the Kenyan Ministry of Health identified five strategic directions which included meaningful involvement of HIV-positive mothers as Mentor Mothers (MMs), which led to the development of guidelines for implementation of the Kenya Mentor Mother Program (KMMMP). KMMMP seeks to improve PMTCT uptake and retention in care through peer education and psychosocial support.

Methods: mothers2mothers implement KMMMP at 20 high volume facilities in Kenya. On first contact, MMs record client details in a longitudinal register which is updated each time the clients returns to the facility for priority PMTCT services up to 18 months post-delivery, when the final infant HIV test is done. Any time clients miss appointments; MMs relay a reminder through SMS or phone calling, depending on the client’s consent. When clients return, MMs enquire and record the reason for missing the appointment. We reviewed program data on missed priorities by randomly sampling 199 HIV positive clients who had defaulted for the period January - December 2014 to better understand the process.

Results: Results indicate that 99% of the sampled clients had given consent for follow-up via telephone, 64% through SMS and 41% of the clients consented for home visit follow up. Most (74%) of the clients who defaulted returned to the facility after only one phone call. Sixty percent returned and took up the service, 22% relocated and reported accessing services elsewhere, while 8% declined and 3% were not traced. The health service associated with most defaults was ARV/HAART refill at 24%, maternal CD4 Test uptake at 22% while the health services associated with the lowest numbers of defaulters were infant PCR test and infant cotrimoxazole uptake at 8% each. Reasons for missing appointment were as follows: 22% had travelled, 16% had transferred out and 9% cited fear of stigma and denial.

Conclusions: Close monitoring of the key priorities via a telephonic follow up is important to achieving the desired retention level within health facilities. More education and support need to be provided to clients initiating ART/HAART to decrease the defaulter rate.
Background: Teen Club, a peer psychosocial support group for HIV-infected adolescents, was introduced at the Baylor College of Medicine Bristol- Myers Squibb Children’s Clinical Center of Excellence-Lesotho (COE) in 2007. Due to an expanding population, there is younger group for those 11-14 years of age and an older group for those 14-18 years of age. Five Baylor College of Medicine Texas Children’s Hospital Bristol-Myers Squibb Satellite Centers of Excellence (SCOE) each have one group for those 11-18 years of age. The Teen Clubs at the SCOE also invite HIV-infected adolescents receiving medical care at nearby facilities. In an effort to better quantify and improve the HIV-specific knowledge of Teen Club participants, a Health Knowledge Survey (survey) was developed.

Methods: Between February and May 2015, the survey was administered to 629 Teen Club participants at the COE and three SCOE. The survey is a modified version of HIV-KQ-45, a comprehensive, validated survey. Forty questions were written in English with Sesotho translations included and with possible answers of True, False and Don’t Know. All survey responses were entered into a database and then coded as correct, incorrect, don’t know or excluded (no response or multiple answers selected).

Results: The older COE Teen Club demonstrated the highest level of HIV knowledge with 63% of questions answered correctly and the younger COE Teen Club the lowest level at 42% correct responses.

Conclusions: Administration of the survey has established a baseline for HIV knowledge among Teen Club participants. All groups show opportunities for increasing and improving the quality of HIV knowledge and practical application to life skills. Facilitators will use the results of the survey to develop new topics or improve existing curricula. An annual follow-up survey is planned to track learning over time in Teen Club participants.

<table>
<thead>
<tr>
<th>Group</th>
<th>Completed surveys</th>
<th>% Correct</th>
<th>% Incorrect</th>
<th>% Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE, younger</td>
<td>201</td>
<td>42%</td>
<td>33%</td>
<td>19%</td>
</tr>
<tr>
<td>COE, older</td>
<td>202</td>
<td>63%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>SCOE #1</td>
<td>100</td>
<td>52%</td>
<td>29%</td>
<td>15%</td>
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<tr>
<td>SCOE #2</td>
<td>74</td>
<td>59%</td>
<td>23%</td>
<td>16%</td>
</tr>
<tr>
<td>SCOE #3</td>
<td>52</td>
<td>55%</td>
<td>25%</td>
<td>16%</td>
</tr>
</tbody>
</table>

[Survey results of support group]
Lessons learned: Using CQI methodology and tools, all site teams started documenting programmatic data, compiling common quality indicators, analyzing quality gaps and discussing possible interventions. All sites are seeing an improvement in documentation of their client follow-up rate since they began plotting indicator changes on the graphs. Eighty-three sites showed significant improvement in 48 hour client follow up, from 28.1% to 47.5% between February - December 2015. Conclusions/Next steps: Since the onset of CQI support, it has been noted that site level CQI teams have gained a positive attitude and are motivated to develop interventions and site-level action plans. While shown to be effective within the VMMC program, CQI tools and methodologies can be applied to all health programs as teams can implement skills gained and lessons learnt across board.

WEPEE490 HEALTHCARE PROVIDERS GO BEYOND THEIR CALL OF DUTY IN AN ART PROGRAMME IN RURAL KWAZULU-NATAL

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Background: Nurses and counsellors play an important role in HIV healthcare delivery and their behaviour likely influences the success of antiretroviral therapy (ART) scale-up and quality care provision. Providing patient satisfaction feedback as a way of initiating discussion may give healthcare providers a better understanding of patient perceptions regarding the care they receive and reflection space to respond or change behaviour.

Methods: In 2012 we carried out a qualitative study with nurses and counsellors in eight (of 17) randomly-selected primary healthcare (PHC) clinics in a rural district in KwaZulu-Natal, South Africa. Twenty-five ART healthcare providers (16 nurses and 9 counsellors) were engaged in a discussion about challenges faced by them and their patients, to inform understanding of factors affecting quality of care. Discussions were based around aspects of satisfaction reported by patients in a previous survey in the same setting (overall satisfaction, communication, contact time, respect, privacy, cleanliness, and waiting times). Discussions were recorded and transcribed; all data were managed using Nvivo 10 and thematic analysis used to identify emerging themes and patterns from the data.

Results: Two broad theoretical constructs emerged: healthcare providers’ empathy and responsiveness to individual patient’s challenges; and feelings of helplessness and inability to address structural barriers within the system. Lessons learnt included healthcare providers feeling unable to respond to issues of staff attitude, respect and the long waiting times for individuals, in a system where many logistical challenges to delivering high quality care existed. Further, healthcare providers felt they had limited capacity to bring about change because of limited resources. However, lessons on resilience emerged as healthcare providers described their adopted solutions to deal with these issues including working longer hours and using personal resources to support patient needs.

Conclusions: Broad lessons learnt are that using results from a patient exit survey to engage nurses and counsellors works well. The healthcare providers’ responses show a commitment to providing quality care and their profession. There is need to strengthen human resources for health especially in light of the new ART initiation guidelines for universal treatment to support healthcare provider’s efforts.

WEPEE491 LONGITUDINAL NORTH-SOUTH PARTNERSHIP IN PEDIATRICS TO IMPROVE HIV/AIDS CARE AND TREATMENT: A MODEL FOR SUSTAINABILITY IN ETHIOPIA

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Background: Teaching hospitals in the global south confront a diminishing supply of physician-educators. In Ethiopia, this has adversely affected the quality of teaching, research, and patient care. Although north-south partnerships (NSPs) hold promise for bolstering under-staffed programs, to date few have done so sustainably.

Description: In 2008, a partnership was established between University of Gonder Hospital (GUH, Ethiopia), Baylor College of Medicine International Pediatric AIDS Initiative at Texas Children’s Hospital (BPIAI), and the Jewish Joint Distribution Committee (JDC) to supplement the GUH teaching faculty with 3 American pediatricians. In 2010, the collaborating partners identified six objectives for the partnership: create a sustainable apparatus for pediatric training, especially HIV/AIDS, advance research in child health, improve patient care, institute a clinical outreach program, exchange knowledge and faculty between participating organizations, and procure medical supplies. To promote sustainability, the partnership created an accredited pediatrics residency program and trained the residents in teaching, research, quality improvement (QI), and outreach. In their second year, residents were mobilized to advance partnership objectives.

Lessons learned: From 2008 to 2013, mean examination scores among 5th year medical students remained stable (range 66%-71%) despite a 50% increase in student volume. Nine research publications were generated from 2012-2013, and the number of projects underway per year increased logarithmically (from zero to 16, 63% of which were resident-driven). Nine QI projects demonstrated improvements in process or outcome, and the number of projects underway per year increased logarithmically (from zero to 15, 60% of which were resident-driven). By 2013, a resident-driven outreach program was active in 18 schools and 3 regional health care centers. The faculty exchange and supply procurement objectives were poorly defined, limiting program evaluation. The first residency class graduated in December 2013 and replaced its expatriate mentors on faculty. By building local HCW capacity, expansion of pediatric HIV/AIDS prevention, care and treatment has been scaled upward.

Conclusions/Next steps: This NSP addressed intermediate-term staffing shortages in a resource-limited teaching hospital. The residency program advanced the department’s medical education, research, patient care, and outreach objectives and ensures a continued focus on HIV/AIDS. This initiative is currently being replicated at the BPIAI Centre of Excellence in Mbabane, Swaziland.

WEPEE492 IMPROVING THE CHRONIC MEDICATION PRE-PACKING SYSTEM AT NOKUTHELA NOWENYA CHC

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Background: Nokuthela Ngwenya CHC as part of the ideal clinic CSM model uses a booking system for patient appointments. The facility was having problems with identifying the specific consulting rooms which patient pre-packed medication and pre-retrieved files should be allocated to before the patient arrives for their appointment. The objective of the quality improvement (QI) project was to develop an effective patient medication pre-packing system which will result in reduced waiting times for patients and confusion for staff.

Methods: Through the use of QI methodology, root cause analysis was performed to identify the causes. The results were:

- No proper system for allocating patients to rooms
- No system for correctly pairing medication with patients

The change idea bundle tested was:

- To pre retrieve booked patient files the day before
- To label all pre-retrieved patient files booked for an appointment with a consultation room number
- To attach the pre-packed medication to the pre-retrieved patient file on daily basis.
- To allocate the patient to the correct consulting room when they arrive for their appointment.
Results: The project was monitored consistently for a period of 12 weeks. We found that 96% of the patients were matched correctly to their consulting room and to their medication. The waiting times were also reduced from 3-4 hours to 1hr 45 min in the same period. The project has also enabled clinicians to be able to track how many patients come to the facility without appointments and this enabled them to plan accordingly.

Conclusions: When designing our systems, we must consider our patients. Creating unnecessary waiting times can result in patients leaving the clinic prematurely. An efficient medication pre-packing system has resulted in an enhanced facility re-organization process and has enabled management to plan accordingly to ensure that the right resources are allocated correctly. This leaves ample time for clinicians to concentrate on managing patients’ health as required.

WEPEE493
DISTRICT-LEVEL IMPLEMENTATION OF THE 90-90-90 STRATEGY IN A HIGH HIV- AND TB-PREVALENCE DISTRICT
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Background: South Africa has one of the highest burdens of human immunodefiency virus (HIV) and tuberculosis (TB) diseases in the world. The country is currently implementing the 90-90-90 initiative, a bottom-up, outcome-based approach; aimed at reducing HIV and TB morbidity and mortality. We describe the strategic approach to implementation of the 90-90-90 strategy in the eThekwini district.

Description: Districts in KwaZulu-Natal were required to monitor three indicators for the financial year(FY)-2015/16, and to develop plans to monitor 12 indicators for the FY-2016/17. Firstly, provincial and municipal staff, and district partners were trained; and a district technical working group (TWG) was formed. Thereafter, all district facilities were divided into five training groups i.e. a priority group comprising provincial facilities that had the poorest performance for the FY-2014/15 (n=26), the remainder of provincial PHC facilities (n=28), provincial hospitals (n=17), and two groups for municipal PHC facilities (n=24 and n=28). Facilities were guided to develop quality improvement plans (QIPs) for improving performance on the FY-2015/16 indicators, and were required to graphically monitor progress. Additionally, facilities were trained to conduct bottleneck analyses (BNAs) and develop action plans to address gaps in performance, for FY-2016/17 indicators. Implementation at facilities, and trends in indicator performance, were monitored from the district level.

Lessons learned: Monitoring of implementation revealed that the majority were compliant with graphically monitoring progress, though less so with monitoring action plans, for FY-2015/16. Similarly, more facilities had attempted BNAs for indicators, and devised plans to address gaps, though had not finalised their plans for FY-2016/17. Monitoring of district-level performance showed improvements in two of the three FY-2015/16 indicators. Cross-cutting issues identified, which impacted facility- and district-level performance, included: i. sub-optimal data management and blood result review processes, ii. incomplete coverage across all service delivery platforms, iii. lack of health educational materials, and iii. poor inter-sectoral coordination.

Conclusions/Next steps: It is important to closely monitor and support implementation at facility-level, in order to improve performance on indicators, and to ultimately improve HIV and TB outcomes in eThekwini. Monthly district TWG meetings will be convened to monitor district-level performance, and quarterly meetings with facilities have been proposed to supervise facility progress.

WEPEE494
OVERCOMING THE STRUCTURAL BARRIERS TO IMPROVING QUALITY HEALTHCARE SERVICE DELIVERY TO PLHIV: LESSONS FROM GENERAL HOSPITAL MINNA, NORTH CENTRAL NIGERIA
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Background: Provision of quality healthcare services to people living with HIV (PLHIV) remains a challenge in sub-Saharan Africa with challenges including delays in the initiation of eligible patients on anti-retroviral therapy (ART), poor clinical screening for tuberculosis (TB), and poor clinic attendance by HIV-positive pediatric patients. Management Sciences for Health (MSH) implements the USAID-funded ProACT Project which supports the provision of comprehensive HIV care and treatment services at General Hospital, Minna, Niger State, a public healthcare facility with a client load of over 7,000 HIV-positive patients. The study reviewed the effect of implementing an innovative facility-level Continuous Quality Improvement (CQI) program, on improving the quality healthcare service delivery to PLHIV.

Methods: A baseline study of randomly selected folders of adult and pediatric patients with attendance at the HIV clinic between July and December 2013 was conducted to evaluate select performance indicators including the prompt initiation of eligible adult patients on ART, TB screening, and clinic attendance by pediatric patients. To address the noted gaps, a strategic quality plan was developed to provide guidance on delivering safe and quality care. This included the set-up and capacity-building of a Quality Improvement Team to implement targeted Quality Improvement Projects, the conduct of an integrated capacity-building training on TB/HIV & adherence counselling and provision of technical assistance through targeted quarterly mentoring visits to the facility CQI team. A subsequent study of randomly selected folders of adult and pediatric clinic folders of patients with clinic attendances between January and June 2014 was conducted to reassess the same indicators.

Results: The initiation of eligible adult patients on ART increased from 0% to 100%; clinical screening for TB increased from 6.56% to 60.8%, and clinic attendance by HIV-positive children increased from 84.6% to 100%.

Conclusions: This study suggests that the use of CQI was feasible and acceptable. It required the collection and analysis of patient care data, and reduction of redundant or overly complex steps in caring for patients. Strong leadership support, stakeholder engagement, focus on strengthening systems and commitment to CQI are important in making and sustaining significant changes.
WEPEE496
USING A QUALITY IMPROVEMENT APPROACH TO BUILD THE CAPACITY OF HEALTH CENTERS TO RETAIN PEOPLE LIVING WITH HIV IN CARE

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Background: With an adult HIV prevalence rate of 3.7%, Cote d’Ivoire has the highest ever HIV prevalence rate in West Africa. The low retention rate of PLHIV on treatment after 12 months (67% in 2013) poses a great challenge to the aim of ending the AIDS epidemic. Cote d’Ivoire’s Ministry of Health and Public Hygiene is actively seeking means to improve services for people living with HIV/AIDS (PLHIV). Through funding from CDC/PEPFAR, in 2013-14 Jhpiego implemented a quality improvement (QI) program in 10 health centers in Cote d’Ivoire, with the aim of improving HIV care & treatment services, including PMTCT.

Description: The QI intervention was implemented in two general hospitals and 8 primary health centers in northern Cote d’Ivoire from March 2014 to February 2015. Checklists of minimum performance standards and verification criteria (VC) in line with national and international guidelines for PMTCT and HIV care & treatment services were used to carry out periodical internal and external audits. All VC had to be met to consider attainment of the standard of care.

Lessons learned: Audits of HIV treatment services showed an improvement in adherence to the 5 performance standards (table 1) for the follow-up of PLHIV on treatment from baseline to endline, after 12 months of QI program implementation. Of the nine facilities with data at both time points, two maintained the minimum of 80% to be considered offering quality ART follow-up care, six improved to meet 80%, and one remained the same (table 2).

<table>
<thead>
<tr>
<th>Standard</th>
<th>PVC</th>
<th>Sample Verification Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Adequate welcome of patients</td>
<td>5</td>
<td>The provider greets the client; The provider introduces him/herself</td>
</tr>
<tr>
<td>2 Assessment of adherence to treatment</td>
<td>12</td>
<td>Ask if the client missed a few doses in the past few days and why; Evaluates the social conditions of the client; Set a date for the return visit</td>
</tr>
<tr>
<td>3 Clinical assessment of patient</td>
<td>11</td>
<td>Review all medications that the client takes; Ask about side effects relevant to the drug the client is taking and manage appropriately; Determine nutritional status</td>
</tr>
<tr>
<td>4 Laboratory evaluation of patient</td>
<td>5</td>
<td>Order, interpret, and document in the client record routine investigations every 6 months: CD4, Hb, etc.; Order a viral load if suspect clinical or immunological failure</td>
</tr>
<tr>
<td>5 Adequate system to maintain patients in care</td>
<td>3</td>
<td>Verify if the facility has a system of home visits</td>
</tr>
</tbody>
</table>

[Table 1: Standards of care for follow up of clients on antiretroviral therapy]

Conclusions/Next steps: Results from the implementation of the QI program in Cote d’Ivoire show that the approach has the potential to improve the retention of PLHIV in care by improving the quality of services offered to patients via its positive effect on adherence to standards of care by health centers.

WEPEE497
QUALITY IMPROVEMENT OF DRIED BLOOD SPOT SPECIMENS SENT FOR HIV PCR TESTING

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Background: Early diagnosis and treatment of HIV-positive infants significantly reduce HIV disease progression and mortality. Poor quality dried blood spot (DBS) specimens are usually rejected by virology laboratories, affecting early infant diagnosis. Laboratory specimen rejections can lead to abandonment of the test request, compromising the linkage of HIV-exposed infants to care. As a quality improvement plan, the department of Virology (DOV) at Inkosi Albert Luthuli Central Hospital in KwaZulu-Natal province, South Africa used various interventions to address the challenges with DBS specimens.

Description: The quality improvement plan targeted laboratories, nurses and doctors within the province. Monthly and weekly trend analyses of specimens and re-quest forms aided the laboratory in identifying referring laboratories which sent poor quality specimens. Re-education of staff at these laboratories allowed them to recognize quality issues prior to specimen referral, preventing unnecessary delays and follow up visits. Trend analysis also allowed the generation of facility reports. These were crucial in informing strategic health programs run by the provincial department of health which provides intensive training to nurses on Prevention of Mother to Child Transmission, and can be focused according to needs in various locations. Interactions with doctors were both via structured training programs such as intern orientation to virological services, as well as telephonic consultations regarding individual patients with electronic dissemination of surveys, training materials and posters. The quality improvement plan allowed a multi-disciplinary collaboration and helped improve awareness and knowledge of specimen quality in the province.

Lessons learned: Despite significant increases in workload (88 481 specimens received in 2014 and 142 027 received in 2015), there was a significant improvement in specimen quality in 2015, as shown in the table.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of specimens in 2014 (%)</th>
<th>Number of specimens in 2015 (%)</th>
<th>2015 vs 2014 p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of specimens sent to the laboratory</td>
<td>88 481 (100.0%)</td>
<td>142 027 (100.0%)</td>
<td>-</td>
</tr>
<tr>
<td>Number of specimens tested</td>
<td>85 114 (96.2%)</td>
<td>139 816 (98.4%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Specimens with no results due to analytical problems</td>
<td>91 (0.1%)</td>
<td>75 (0.05%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Total number of specimens rejected</td>
<td>3 276 (3.7%)</td>
<td>2 211 (1.6%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Rejected due to insufficient volume</td>
<td>1 602 (1.8%)</td>
<td>551 (0.4%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Rejected due to inadequate information</td>
<td>794 (0.9%)</td>
<td>478 (0.3%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Rejected due to incorrect clinical indication</td>
<td>504 (0.6%)</td>
<td>799 (0.6%)</td>
<td>0.84</td>
</tr>
<tr>
<td>Rejected due to poor specimen quality</td>
<td>376 (0.4%)</td>
<td>308 (0.2%)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

[Overview of specimens received in 2014 and 2015]

Conclusions/Next steps: Analyzing laboratory trends and collaboration with referring laboratories, clinical colleagues and provincial health services can help to reduce specimen rejections, which may improve early infant diagnosis.
and adolescents of index patients. All those testing positive were referred to the MBCP and introduced performance monitoring at the health facilities for follow-up, and 88% went.

Conclusions: Although there is room for improvement, there has been evident year on year progress across all the domains and indicators for each of the HAST programmes. The HAST Audit is dynamic and subjected to annual review to ensure alignment with policy. It has found its rightful place in evaluating quality, availability, access, integration and continuity of care.

ENGAGING CLIENTS AND COMMUNITIES IN QUALITY IMPROVEMENT (QI) ACTIVITIES

WEPEE5001 MITIGATING OPPORTUNISTIC INFECTIONS AGGRAVATED BY BIOMASS FUEL INDOOR POLLUTION IN PLWHA IN POOR RURAL HOUSEHOLDERS IN SUB-SAHARAN AFRICA: A CASE STUDY OF KISUMU COUNTY, KENYA

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Background: More than a third of the global population burn Biomass Fuel (BMF) for cooking, heating and lighting. In humans, HIV infection causes increased bacterial infections, pneumonia and TB. HIV infection has been associated with mild airway obstruction and loss of gas transfer, with severe impairment occurring in the presence of Pneumocystis jiroveci infection. HIV has also accelerate the development of COPD in humans. PLWHA are at greater risk of pulmonary complications caused by BMF indoor pollution

The health effects of BMF indoor pollution may arise after a single exposure and/or long or repeated exposure. The levels of exposure to pollutants are often 100 times greater than recommended maximums in poor households.

Description: YUSUD launched a project to investigate the health effects in poor rural households of PLWHA in Kisumu County when switching traditional BMF sources to simple low cost Green Energy Solutions, including solar, bio-diesel, biomass, and biogas, over a period of 12 month. The data collected analysed the general changes in health indicators and household management.

Lessons learned: 95% of the PLWHA reported reduced incidences of respiratory tract infections within 21days. There was a significant deceleration in the development of COPD, ARI and heart diseases amongst PLWHA after just 6months. More than 95% of the PLWHHV recorded over 70% reduction in the short-term effects of BMF indoor pollution which includes irritation of eyes, nose and throat, headaches, dizziness, and fatigue. Overall, due to a 50-80% reduction in household energy expenditures, the savings resulted in increased access to better nutrition, personal development, and medical services, thus enhancing quality of care and health outcomes for PLWHA.

Conclusions/Next steps: BMF indoor pollution is responsible for the deaths of 1.6million people annually, with PLWHA as increased risk. Improved indoor air quality using alternative green energy could lower the health risks associated with BMF indoor air pollution, decreasing the risk of opportunistic infections in PLWHA. New, innovative approaches to accessing green energy within communities at risk with necessary to improve health outcomes, and will require involvement between public and private entities to ensure success.
WEPEE02
COMMUNITY-DRIVEN ACCOUNTABILITY THROUGH ADVOCACY COMMITTEES: A VEHICLE FOR IMPROVING HIV AND REPRODUCTIVE HEALTH SERVICES FOR WOMEN LIVING WITH HIV

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Background: Women living with HIV experience more rights violations in HIV and reproductive health services than HIV negative women. This discourages women from seeking services and compromises the health of women and children. To address poor quality care, 12 community-based Women’s Rights Protection Committees (WRPCs) were established in Lilongwe, Malawi.

Description: WRPCs have the following responsibilities: sensitize women living with HIV to the importance of HIV and reproductive health services; identify cases of unmet needs and poor quality care; and coordinate with health facilities to facilitate quality service delivery. Committees were established after sensitizing local facilities to the importance of public accountability. Committee members are comprised of women living with HIV who were chosen by local HIV support groups. Committees were trained and have a working relationship with local health facilities.

Lessons learned: An initial evaluation was conducted 5 months after WRPCs were established using observational data from committee meetings, meeting minutes, and 12 focus groups. Data provide an initial assessment of the feasibility and potential capacity of community-based accountability groups in low-resource settings. WRPCs reported identifying and addressing unmet needs and poor quality care for women’s health on a regular basis. The most commonly reported complaints received from women were rude behaviour by providers and delayed services. The most commonly reported needs addressed were antenatal services, neonatal HIV testing, and family planning services for women living with HIV.

Committees also acted as a bridge between facilities and communities, providing a platform where concerns about health services were discussed and mutual understandings were established. Based on committee successes, health facilities are increasingly seeking collaboration with WRPCs to respond to lost to follow-up and improve the quality of services. Committees who regularly met with health facilities reported more motivation for and capacity to complete their work. Having facility personnel regularly visit WRPCs improved WRPCs’ ability to address poor quality care and increased community buy-in for committee activities.

Conclusions/Next steps: Community-driven accountability led by women living with HIV is a viable option to address poor quality of and poor access to HIV and reproductive health services. Regular engagement with local health facilities is essential for committee success.

WEPEE004
IMPROVING ENGAGEMENT TO CARE AND TREATMENT IN THE HIV COMPREHENSIVE CARE CLINIC AT ISILO DISTRICT HOSPITAL USING WETTEL KENYA 2 SHORT MESSAGE SERVICE (SMS)

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Background: Despite high uptake to care and treatment for HIV patients in Kenya, there are still challenges in retention in care, especially in the Northern Arid Lands (NAL). These are as a result of poor communication/transport, poor access to medical facilities and community cultures. The study aims to analyze the effect of WelTel SMS service in improving client engagement to care and treatment.

Methods: HIV patients are routinely scheduled 3 monthly clinic appointments. Registered clients in the WelTel SMS platform receive weekly SMS to check in on their status, the clients are expected to respond within 48 hours. Four months data on appointment status of WelTel and Non-WelTel clients was obtained from Electronic Medical Record, daily attendance charts and WelTel platform. The appointments were classified as Attended - client attends the clinic on the scheduled day of appointment, Delayed - client attends the clinic not on the appointment day but came within 30 days from the appointment day and Defaulted - clients who do not appear at the clinic after 30 days of their missed appointment.

Results: As at October 2015 WelTel SMS platform had enrolled 510 clients out of the 1236 active clients at the HIV Comprehensive Care Clinic (CCC). In the months of July, August, September and October these were the results; 68 (53.54%), 125 (64.1%), 75 (60.0%) and 78 (63.93%) clients respectively enrolled on WelTel SMS platform attended their appointments on time as compared to 94 (44.34%), 219 (61.17%), 141 (52.03%) and 100 (51.81%) clients respectively, who were not enrolled on WelTel SMS platform (p=0.0806). While 55(43.31%), 62(31.79%), 43(34.4%) and 28(22.95%) clients respectively enrolled on WelTel SMS platform delayed on attending their appointments as compared to 93(43.87%), 123(43.36%), 96(35.42%) and 49(35.42%) respectively of Non-WelTel clients(p=0.0806). Only 4 (3.15%), 8 (4.1%), 7 (5.6%) and 16 (3.11%) clients respectively enrolled on WelTel SMS platform defaulted as compared to 25 (11.79%), 16(4.74%), 34(12.53%) and 44(22.8%) respectively of Non-WetTel (p<0.0099).

Conclusions: The CCC Clients who received weekly SMS check-ins via the WelTel service were more likely to attend their appointments on time and less likely to default HIV care and treatment.
WEPEE505
THE IMPACT OF NIMART (NURSE INITIATED MANAGEMENT OF ANTIRETROVIRAL TREATMENT) AND CCMDD (CENTRALIZED CHRONIC MEDICINE DISPENSING AND DISTRIBUTION) IN DECONGESTING PRIMARY HEALTH CARE FACILITIES

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Background: There are about 6.3 million people living with HIV in South Africa. One innovative strategy that has been introduced in South Africa to scale up treatment to all clients in need is the introduction of task shifting approach that allows nurses to initiate and manage ART (NIMART). Although the NIMART strategy has significantly increased access to ART, it has resulted in congestion at the facilities due to large numbers of clients accessing treatment. A Centralized Chronic Medicine Dispensing and Distribution (CCMDD) intervention was implemented to streamline processes in ART treatment facilities.

Description: CCMDD was implemented on the 5th May 2015 at Fordville Clinic. NIMART-trained nurses identified stable clients who had been on treatment for a year to be referred to CCMDD program. The treatment is pre-packed while ensuring adherence to good pharmacy practices. The pre-packed treatment is then delivered to the pick-up points by pharmacy assistants at a community level, where clients will access the treatment with ease on appointment system which involves a given date and time. Data capture captures all the visits in their clinical charts.

Lessons learned: Prior to the introduction of the CCMDD initiative in 2014, 1039 were visiting the facility per year. One year after the introduction of the CCMDD, the number of patients accessing the facility had dropped by 35% to 480 per quarter. The default rate was reduced from 5 (0.04%) to 4 (0.03%) per month as clients were allowed to send treatment buddies to collect treatment on their behalf. The proportion of clients collecting medication from pick up points has increased by 76% to 92%. Clients were referred to pick-up points thus reducing waiting times from 4 hours to 2 hours in the facility. NIMART training has increased initiation skills and competency levels.

Conclusions: NIMART-trained nurses identified stable clients who had been on treatment for a year to be referred to CCMDD program. The treatment is pre-packed while ensuring adherence to good pharmacy practices. The pre-packed treatment is then delivered to the pick-up points by pharmacy assistants at a community level, where clients will access the treatment with ease on appointment system which involves a given date and time. Data capture captures all the visits in their clinical charts.

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WEPE6508 IMPACT OF THE CHILDREN AND ADOLESCENTS HIV QUALITY CARE NETWORK (CQON) ON HIV VIRAL LOAD TESTING AND VIROLOGIC SUPPRESSION AMONG HIV-INFECTED CHILDREN. THAILAND. 2014
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Background: The Children and Adolescents HIV Quality Care Network (CQON) aims to improve the care and treatment of HIV-infected children and adolescents in Thailand. The CQON supports and provides activities to establish multidisciplinary pediatric HIV care teams in clinics, conduct regular performance measurement and quality improvement (QI) activities, conduct provincial CAN trainings, and create and sustain provincial referral and consultation networks. CAN trainings were expanded to 76 of Thailand’s 77 provinces during 2011-2013. Four regional trainers conducted the trainings for provincial and large community hospitals. Once trained, provincial trainers conducted CAN trainings for community hospitals in their provinces. We compared the viral load (VL) testing coverage, virologic suppression rate, and the death rate of children receiving care in hospitals receiving CAN training by regional trainers (directly participating hospital, DP), by provincial trainers (indirectly participating hospitals, IP), and non-participating hospital (NP).

Methods: Data were selected from HIV-infected children < 15 years old in the National AIDS Program database in 2014. Hospitals with >5 HIV-infected children were selected for analysis. We compared the proportion of HIV-infected children and adolescents who had viral load testing, virologic suppression (< 50 copies/mL), and death rate of DP, IP, and NP hospitals using Kruskal-Wallis test.

Results: From October 2013-September 2014, 6,372 HIV-infected children from 471 hospitals in 76 provinces were included in the analysis; 3,570 (56.0%) children receiving care in 149 (31.6%) DP hospitals, 1,832 (28.8%) in 288 (74.2%) IP hospitals, and 970 (15.2%) in 34 (7.2%) NP hospitals. A total of 4,894 (83.5%) of 5,860 ART eligible children received antiretroviral treatment (ART). Median annual VL testing rate of children receiving ART for >6 months was higher in DP (92%) and IP (100%) than NP (76%) (p<0.01). Median virologic suppression rates were higher among children in CAN participating hospitals (83%) than NP (75%) hospitals (p=0.04). The mean death rates among children were lower in IP (0.08%) compared to NP (0.29%) and DP (0.15%) (p<0.001).

Conclusions: Coverage of VL testing and the virologic suppression rate was higher in CAN participating hospitals than non-participating hospitals. Network activities should continue and be expanded to all hospitals in Thailand.

WEPE6509 EVALUATING THE IMPACT OF INNOVATIVE STATE QUALITY IMPROVEMENT PROJECT IN HIV PROGRAM: EXPERIENCE FROM NORTH-WESTERN NIGERIA
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Background: Driving competition among health facilities and staff through regional or state quality improvement (QI) projects could solve the problem of improving quality of HIV services. This study evaluated the impact of state QI project compared with hospital-specific project developed based on identified gaps from biannual National Quality program (NigeriaQual) between 2014-2015 in USAID-funded ProACT project implemented by MSH in Kebbi state, Nigeria.

Methods: A baseline study was conducted between Jan-June 2014 using NigeriaQual data abstraction questionnaires to extract information on the quality of care provided for 1200 randomly selected patients who assessed HIV care across 6 hospitals between July-December 2013. Each hospital then developed hospital-specific QI projects based on indicators needing improvement. A similar subsequent study was conducted between Jan-June 2015 on 1200 randomly selected patients who assessed HIV services across the same hospitals between July-December 2014 to evaluate cross-cutting lowest performing indicators. These indicators were scored and ranked resulting in three indicators with highest priority scores that formed Kebbi regional QI projects: to improve access to CD4 for adult and pediatric people living with HIV (PLHIV) from 53.5% to 90%; dried blood spot (DBS) access for exposed infants from 32.1% to 90% and access to rapid test at 18 months from 34% to 90% all between July-December 2015. The state Technical Working Group provided technical assistance and a progress report of individual hospital and state average performance was shared with hospital QI committee members every 2 months.

Results: By December 2015, access to DBS collection for exposed infants increased from Kebbi state average of 32.1% to 90%, access to CD4 for PLHIV improved from state average of 53.5% to 86% while rapid testing at 18 months improved from 34% to 38% with 4 of the 6 facilities achieving more than state average. Hospitals achieved greater improvement in similar quality indicators with state QI than hospital-specific QI project.

Conclusions: Regional or state-wide quality improvement projects developed based on HIV quality indicators needing improvement across board has been shown to yield better results. The study will help stakeholders to know how best to stimulate competition for better quality of HIV services.

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Background: South Africa (SA) is home to 6.4 million people living with HIV, with an estimated HIV prevalence of 18.9% amongst 15-49 year old adults. The National Department of Health (NDOH), in partnership with PEPFAR, rolled out Voluntary Medical Male Circumcision (VMMC) services as a key HIV prevention strategy. With programmatic expansion, quality issues were noted. In June 2014, the USAID ASSIST project was funded to implement Continuous Quality Improvement at 134 PEPFAR-supported sites to improve the quality and safety of VMMC services.

Description: Baseline CQI assessments in 134 facilities, across 9 provinces demonstrated quality gaps in compliance with 8 key VMMC Quality Standards (Leadership and planning, management systems, monitoring and evaluation, registration, group education and counselling, individual counselling and HIV testing, infrastructure, equipment and supplies, surgical procedure and infection prevention and control). Based on performance, sites were classified for intense (monthly), light (quarterly) or collaborative (annual) support by the ASSIST team. During CQI support visits, facility-level CQI teams were established, quality gaps identified, analyzed and improvement interventions tested, adapted and scaled up to address these gaps. Implementing partners (IPs) played an important role in implementation. Additionally, Four CQI trainings were conducted, attended by 6 provinces. Basic CQI concepts, methodology and tools were discussed and applied during group work. Three CQI learning sessions were conducted, where provinces, DOH facilities, IPs and private providers shared lessons on best practices as well as what did not work. During learning sessions, individual and groups were given the opportunity to learn from colleagues. Quarterly site re-assessments were conducted.

Lessons learned: Lessons learned: Within a 12-month period, provision of CQI by ASSIST staff led to improved overall compliance with all 8 VMMC Quality standards. This resulted in improved quality of VMMC services and better collaboration between DOH and VMMC implementing partners.

Conclusions/Next steps: Implementation of CQI has yielded tangible results in VMMC service delivery in South Africa.
Capturing of ‘Experiential Knowledge’ by National AIDS Control Organisation of India to Replicate Across Indian States and Globally

N. Dhingra1

Methods:
for all group members. We conducted a qualitative study to assess the benefits and constraints of drugs refills, but also enhanced emotional support, with the group perceived as an added value of the groups allowing not only sharing of the logistical costs for patients and a reduced workload for HCWs. Additionally peer support was documented experiential knowledge. Results: From Chichewa to English. Data was analysed through a thematic analysis. The study documented experiential knowledge. Lessons learned: Capturing of experiential knowledge is an effective and efficient way to meet the implementation challenges. Motivating implementers to capture their own experiences was a challenge, since knowledge capturing initiative is not institutionalized. It required hand-holding support from S2S Knowledge Sharing Secretariat. Conclusions/Next steps: It is therefore essential to capture, share experiential knowledge and promote peer to peer learning. The captured knowledge will be shared within NACO, between states and other countries through systematic knowledge sharing methods. NACO is in the process of building a resource pool as well as an online interactive knowledge sharing system where anyone can access these documented experiential knowledge.

Programmatic Data on Quality of HIV Prevention and Care Continua

WEPEE512

“WE ARE PART OF A FAMILY.” BENEFITS AND LIMITS OF COMMUNITY ART GROUPS IN THYILO DISTRICT, MALAWI: A QUALITATIVE STUDY

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Background: In 2012 Community ART Groups (CAGs) were piloted in Thyolo District, Malawi as a community-based model of ART delivery to overcome patients’ barriers in accessing treatment and decrease health care workers’ workload. CAGs are self-formed groups of patients on ART who rotate at the health facility for drug pick up for all group members. We conducted a qualitative study to assess the benefits and challenges of CAGs from the patients’ and health care workers’ (HCWs) perspective.

Methods: Fifteen focus group discussions, 15 individual in-depth interviews and 2 days of participant observation were performed in 2 health centres. The 94 study participants included CAG members, ART patients eligible for CAGs but in conventional care, former CAG members who returned to conventional care and HCWs. They were purposefully selected from ART registers considering their socio-demographic characteristics. Narratives were audio-recorded, transcribed, and translated from Chichewa to English. Data was analysed through a thematic analysis. The study was approved by the National Health Sciences Research Committee of Malawi.

Results: Patients as well as HCWs highly appreciated the practical benefits of CAGs in reducing frequent clinic visits, resulting in fewer transportation and occupational costs for patients and a reduced workload for HCWs. Additionally peer support was perceived as an added value of the groups allowing not only sharing of the logistical constraints of drugs refills, but also enhanced emotional support, with the group acting as a forum for understanding and support to adhere to ART. Barriers to join a CAG were a lack of information on CAGs, unwillingness to disclose one’s HIV status, mobility and group conflicts. HIV related stigma persists and CAGs were perceived as an effective strategy to minimize exposure to discriminatory labelling by community members.

Conclusions: CAGs are an acceptable model for ART delivery for PLHIV and HCWs. The CAGs addressed patient’s practical barriers to accessing ART and improved peer support, a factor patients considered fundamental to their well-being. CAGs had a limited impact on reducing HIV-related stigma. Further expansion of this model of ART delivery should be considered in similar settings.

Tackling the First 2.90s in Zimbabwe: HIV Test Yield and Linkage to Care in Makoni and Mutare Districts, Manicaland Province

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Background: Reaching ambitious 90-90-90 targets will increase requiring the proportion of people living with HIV who know their status and strengthening linkages to care and treatment. In Zimbabwe, with an estimated adult HIV prevalence of 10.7%, 76% health information in paper-based registers precludes routine reporting of entry point disaggregated or individual outcomes in the HIV Care and Treatment program. Objective of our targeted assessment was to establish current rates of HIV test yields and linkage of positive HIV+ individuals to care and treatment from different healthcare entry points. Methods: Eleven (11) health facilities in Makoni and Mutare Districts were selected using a simplified probability proportional to size technique. In October 2015, we conducted a retrospective cohort analysis tracing all individuals testing HIV positive from January to March 2015 through facility registers. De-identified, age and sex disaggregated data on HIV testing entry point and linkage to care and treatment was entered into MSExcel and analyzed descriptively using StataV12.

Results: Among 3,816 HIV tests conducted, only 34.5% (n=1,318) were among men. Overall, women testing in PMTCT settings accounted for over 1/3 of all HIV tests (n=1,374). Observed prevalence was 10.7% in adults (15-45+) and 6.9% in children tested. The majority of individuals testing HIV+ were tested for the first time (64%; n=2,815). Among age and sex disaggregated groups, males age 45+ (17%) had highest positivity rate. Entry points with highest positivity rates included TB (30%), index cases (24%) and outpatient departments (22%). Linkage to care and treatment was recorded in 64% of all individuals testing HIV+. Highest linkage rates were observed in PMTCT (82%) and lowest among young people aged 15-24 (49%). Higher volume sites serving 1500+ patients on ART had lower linkage rates (range 44-59%) than those serving between 200-1500 ART clients (range 53-100%). Conclusions: Findings demonstrate there are groups in need of enhanced support to increase HIV test rates (men) and linkages to care and treatment (young people) to reach the first 2.90s in Zimbabwe. Evidence on effective differentiated models of care for increasing test rates in low testing, high yield sub populations and providing support for linkage and retention are required.

Acceptability of Option B+ among Pregnant and Breastfeeding Women in Select Districts in Zimbabwe

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Background: Zimbabwe’s MOHCC adopted the 2013 World Health Organization (WHO) PMTCT guidelines recommending the initiation of HIV positive pregnant and breastfeeding women (PPBW) on lifelong antiretroviral treatment irrespective of their clinical or immunological stage (Option B+). Option B+ was officially launched in November 2013. The acceptability and uptake of lifelong treatment by women accessing health care facilities was unknown. We explored the acceptability of and adherence to lifelong antiretroviral therapy among PPBW, and described experiences and perceptions regarding Option B+ service delivery in order to identify potential areas to improve service delivery and uptake.
**WEPEE516**

**KEY POPULATION-FRIENDLY SEXUALLY TRANSMITTED INFECTION MANAGEMENT IN NIGERIA**

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**Background:** Sexually-transmitted-infections (STIs) is known to increase the potential for HIV transmission particularly for key-populations (KP). Despite the dire need for STI-programming, the country had no standardized-protocol, tools and systems for STI-management. Society-for-Family-Health, a principal-recipient of The-Global-Fund, piloted a one-year STI-syndromic-management-services as against etiological-management in two-states of Lagos and FCT-Abuja with the objective of providing KP-friendly-STI-programming as one of the strategies for reducing the spread of HIV-infection, minimising missed-opportunities and high-cost of laboratory-investigations.

**Description:** The programme adopted a three-prong approach of Institutional-support, Service-provision, and Strengthening-of-monitoring-and-evaluation. The implementation process involved the assessment of gaps in training-program, manual and Health-system for KPs. Training of 120 health-care-workers from 40 health-facilities made up of primary, secondary and private-healthcare-facilities using a revised national-STI-Syndromic-management-guideline, provision of STI-drugs and consumables, to the selected health-care-facilities. The training was community-mobilizers, data-management by 40 trained instructors in the facilities and effective primary-prevention of STIs to KPs through promotion of appropriate-STIs-care-seeking-behavior, provision of HIV-testing-services and provision of condoms.

**Lessons learned:** A technical review of the programme by an independent consultant revealed that the use of the flow charts simplified diagnosis by the health-workers and reduced time spent in health-facilities by KPs, every flow-chart represents a compromise between diagnostic accuracy, technical and financial realities, improved mutual-trust between the health-workers and KPs, commitment of pharmacists to the programme was low in terms of tracking drugs because they were not trained, there was no formal-structure or curriculum for stepping-down the training to other members of staff in the facility thereby limiting-capacity-building of other staff in the facilities, integration of Syndromic-management-of-STIs into the entire hospital-clients' management varied thus operated like a parallel programme in some facilities, drug-logistic-management was more effective in the private and primary-health-facilities than secondary facilities.

**Conclusions/Next steps:** The Syndromic-management-of-STI made treatment accessible and affordable to a large-majority of the key-population. Data-collection and collation on syndromic-management commenced for the first time with the successful implementation of this pilot project which will be scaled up in the new funding model of The-Global-Fund. On a medium and long-term, syndromic-management of STIs for KPs should be included in the pre-service training-curricula for health-care-workers and incorporated into the community-health-services-programmes.

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**WEPEE515**

**INTEGRATION OF HIV TESTING, CARE AND TREATMENT SERVICES INTO TB CLINIC IN NORTHERN NAMIBIA HAS DRAMATICALLY IMPROVED QUALITY OF HIV SERVICES: A REAL WORLD EXPERIENCE**


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**Background:** Nearly half of TB patients in Namibia have HIV co-infection. HIV and TB services are not integrated. This affects HIV testing, linkage-to-care, anti-retroviral therapy (ART) initiation, retention and TB infection control (TB IC). We integrated HIV testing, care and treatment services into TB clinic in Oshakati hospital to improve HIV testing uptake, linkage-to-care and ART initiation.

**Description:** We trained healthcare workers (HCWs) on HIV testing, care and treatment; optimized minimum available resources and introduced the integrated model in this model, TB patients access point-of-care HIV testing and counseling, linkage-to-care and ART initiation in TB clinic without referral to HIV clinic setting. Prescription and dispensing of anti-retrovirals is also done in TB clinic. Upon completion of TB treatment, patients are transferred to HIV clinics for continued care and treatment.

**Lessons learned:** HCWs and patients welcomed the model. In 12 months, 338 patients received TB treatment. All with unknown HIV status were tested. HIV positivity was 42.6%. We conducted cohort analysis to measure time from HIV-testing-to-enrollment into care and TB diagnosis to ART initiation. Thirty patients who started ART in HIV clinic during the year before integration were taken as historic controls and 59 who started ART in the integrated model as intervention group. We compared average time-to-enrollment into care and time-to-ART initiation. Average time, from testing to enrollment was 71.8 and 3.2 days (T=2.61, P=0.01) and TB treatment integration to ART initiation was 44.0 and 18.3 days (T= 2.75, P<0.008) among the control and intervention groups, respectively. We used Cox Proportional Hazards Regression for time-to-event analyses. After integration, there were 82% (HR= 0.18 [95% CI=0.09-0.37, Pc= 0.0001]) and 53% (HR= 0.47 [95% CI=0.27-0.82, P=0.007]) reductions in time-to-enrollment into care and time-to-ART initiation, respectively. No participants in intervention and 6.8% in the control group received inappropriate ART regimens. Following expansion of this facility, four other hospitals adapted the model.

**Conclusions/Next steps:** Facilities can provide integrated HIV and TB services with minimum resources. Integration enhances HIV testing uptake, strengthens linkage-to-care and significantly reduces time-to-enrollment and time-to-ART initiation. It improves patient safety and TB IC. Programs may progressively adapt integrated model of TB/HIV services.
OAT patients and PWIDs accounting for the sampling strategy (sampling weights). We further explored qualitative data for possible explanations of differences in HIV treatment cascades.

**Results:** HIV treatment cascades indicate the differences between OAT patients and PWIDs in levels of HIV diagnosis (91% vs. 71%), linkage (81% vs. 54%) and retention in care (69% vs. 37%). Data demonstrates the positive effect of OAT on linking HIV positive PWIDs to HIV care. Cascade indicates an important general gap between those who started taking ART and are adherent.

**Conclusions:** These results support the importance of OAT for linking HIV positive patients to HIV care in resource constraint settings. Findings support international research and practice for OAT patients this gap is representing poly-pharmacy and pharmacokinetic interaction between ART and OAT which was voiced during focus groups. There were no major differences in treatment cascades between genders for OAT patients, however, female PWID reported higher proportions at all the stages of the cascade.

**WEPEE518**

COMMUNITY ADVOCACY AND EDUCATION TO END STIGMATIZING LANGUAGE IN TB AND HIV RESEARCH AND PRACTICE

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**Background:** Research has shown that stigma impacts on the willingness of people with TB and HIV to undergo screening, seek treatment and remain in care. Stigma is multidimensional, and one source of stigma is the stigmatizing terminology used to describe people with TB and TB/HIV. Stigmatizing terms like “suspect” and “defaulter” remain widespread in TB/HIV research and clinical care despite the guidance from the Stop TB Partnership on patient-centered language and communication calls to discontinue these terms.

**Description:** The Community Research Advisors Group (CRAG), the community advisory board (CAB) to the Tuberculosis Trials Consortium (TBTC), and Community Partners (CP), a group of community representatives working across the 5 National Institutes of Health HIV/AIDS clinical trials networks, formed a collaboration to end the use of stigmatizing terminology in TB/HIV research. Advocacy strategies included sign-on petitions to professional societies and academic publishers; internal memos addressed to investigators at research networks; community participation in guidelines development; and education on stigma for TB/HIV programs.

**Lessons learned:** Advocates and CABs have worked with public health and scientific stakeholders to replace stigmatizing terminology with language that maintains clarity required for clear clinical discourse while respecting the dignity of people with TB and TB/HIV. Eliminating stigmatizing language requires interventions at multiple levels including community education; research planning and conduct; research results communication and publication; and the translation of research into policy and practice. Community advocacy and education is effective in reducing stigmatizing language in TB and HIV research and practice as shown in the Table.

**WEPEE19**

CHALLENGES TO THE INTEGRATION OF HIV AND M/XDR-TB SERVICES IN SOUTH AFRICA: A QUALITATIVE STUDY OF FRONTLINE HEALTH PROVIDERS

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**Background:** One-fifth of all MDR-TB cases occur in South Africa; 60-80% are HIV-positive. Fewer than half of MDR-TB patients successfully complete treatment, and outcomes are significantly worse among patients with XDR-TB and those coinfected with HIV. Decentralization of M/XDR-TB treatment and integration of HIV and M/ XDR-TB services are thus crucial components of the national TB agenda. A better understanding of frontline challenges is needed to ensure that strategies under development are not only efficacious but also acceptable to patients and providers.

**Methods:** In 2013, we conducted a qualitative study to highlight personal, professional, and programmatic factors underlying health care providers’ capacity to deliver optimal care for M/XDR-TB and HIV. Focus groups and individual interviews were completed with a purposive sample of 17 providers at a tertiary TB facility in KwaZulu Natal. A grounded theory analytic framework yielded several themes that were conceptualized to enhance their applicability to other high-burden settings.

**Results:** Participants included four doctors, eleven nurses, and two allied health providers, with median 4.5 years’ experience treating HIV and/or M/XDR-TB (range, 0.5-20); 9 participants were primarily responsible for providing M/XDR-TB care and 8 for HIV care. Their personal infection control practices, specifically face-mask use, were weakened by a workplace culture characterized by low motivation, disparate risk-perceptions and practices in the workforce hierarchy, physical discomfort, and difficulties managing patients with treatment-induced hearing loss. Patient-provider interactions were stronger among nurses, compared to doctors, and in the delivery of HIV, compared to M/XDR-TB, care due to a greater focus on patient empowerment, empathy, and support. The stigma associated with M/XDR-TB was considered worse than with HIV, and perpetuated by the health system, particularly within primary health care facilities with little/no exposure to cases of M/XDR-TB. Providers struggled with the daily tedium of M/XDR-TB treatment supervision, and supported treatment literacy and self-administration. Administrative restrictions, clinic norms, and vertical provider mindsets impeded the effective integration of HIV and M/XDR-TB care.

**Conclusions:** The comprehensive, decentralized management of M/XDR-TB/HIV coinfection mandates greater attention to patient-provider trust, treatment literacy, and traditional workplace norms that continue to perpetuate fragmented service delivery and exposure to nosocomial infection.
WEPEE520
COMMUNITY-LED TUBERCULOSIS SCREENING OF PEOPLE LIVING WITH HIV FOR EARLY DIAGNOSIS AND LINKAGE: A CASE STUDY FROM INDIA

Background: Care and Support Centres (CSCs) under Vihaan project in India work closely with NACO ART centers and provide expanded and holistic care and support services for People Living with HIV (PLHIV) through a community led model. Community-based outreach is the backbone of CSC, serving as a comprehensive approach to provide support for retention in treatment, adherence, positive living, referrals to other health services, linkages to social welfare schemes, and strengthening enabling environment for PLHIV. There are 350 CSCs implemented by PLHIV networks, community-based organizations, and Non-Government Organizations. Tuberculosis (TB) and HIV services were integrated in CSC services to address dual infection.

Description: Through an integrated approach HIV-TB services were included into CSCs. Tuberculosis screening among PLHIV based on four symptom screening, linkage to ART for those diagnosed with TB, counseling for treatment adherence of HIV-TB co-infected clients, referral and contacts screening for TB were the activities integrated to CSC services. Trainings were conducted for all CSC staff and monitoring indicators were defined. The findings and lessons learned from these activities implemented during October to December 2015 are presented in this paper.

Lessons learned: Total 55,582 PLHIV were screened for TB, among them 1,354 (2.43 %) were from HRG groups. 9,494 PLHIV were referred by CSCs for TB testing among whom 762 (8.01 %) were diagnosed with TB and linked for starting TB treatment. 334 family members who were TB symptomatic were also referred to TB diagnostic centers. The table of results is attached:

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Male Children (&lt;15 Years)</th>
<th>Female Children (&lt;15 Years)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PLHIV screened for TB symptoms</td>
<td>2562</td>
<td>26756</td>
<td>117</td>
</tr>
<tr>
<td>Number of TB symptomatic PLHIV referred to nearest TB diagnostic centres</td>
<td>4589</td>
<td>4483</td>
<td>12</td>
</tr>
<tr>
<td>Number of Key Population (HRG) among PLHIV screened for TB through ICF</td>
<td>687</td>
<td>565</td>
<td>79</td>
</tr>
<tr>
<td>Number of Key Population (HRG) among PLHIV referred for TB testing</td>
<td>245</td>
<td>173</td>
<td>35</td>
</tr>
<tr>
<td>Number of referred PLHIV got tested and detected TB positive</td>
<td>451</td>
<td>277</td>
<td>7</td>
</tr>
<tr>
<td>Number of TB symptomatic family members / partner of registered PLHIV referred to TB testing facility</td>
<td>151</td>
<td>153</td>
<td>0</td>
</tr>
</tbody>
</table>

Conclusions/Next steps: The findings of intervention suggests that community based care and support centres involvement in TB/HIV are effective supplement in efforts to diagnose TB early and thereby add to the ongoing efforts of national program to collaborate HIV-TB activities aimed at improving outcomes of those co infected with HIV and TB.

WEPEE521
HARM REDUCTION: LIMITATION OF HIV PREVENTION INTERVENTION FOR INJECTION DRUG USERS IN NIGERIA

Background: Strengthening HIV Prevention Services for Most at Risk Populations (SHIPS for MARPs), a USAID-funded project implemented by Center for the Right to Health (CRH) aims to reduce HIV prevalence among Injection Drug Users (IDUs) despite limitations in providing Drug-User-Specific interventions such as needle syringe program. The prevalence of HIV among IDUs in Nigeria is 4.2% (IBBSS 2010) which is greater than the National Prevalence of 4.1% (ANC 2010) with prevalence among female IDUs about 7 times higher than among male IDUs (IBBSS 2010).

Description: CRH is currently implementing HIV Prevention intervention for Injection Drug Users in 4 States in Nigeria (Lagos, Rivers, Akwa Ibom and Cross Rivers). The Minimum Prevention Package Intervention (MPP) strategies were developed to address key challenges identified during a baseline survey conducted prior to the project commencement. Procedure for implementing strategy for intervention include peer education which involves targeted messages to address issues related to behavioral change and healthy living interactively discussed in modules. Between January 2015 and December 2015 a total of 1063 IDUs have been reached with these strategies. IDUs reached across States reported Reduction in needle & syringe sharing, Reduction in unprotected sexual activity, Access to safer sex products. Limitations include:

- Other interventions, in particular access to ART, Hepatitis and Tuberculosis diagnosis, prevention and treatment, are not documented or lacking, including the prevalence.
- The concept of harm reduction is not fully accepted yet in Nigeria, including among the stakeholders.

Drug detoxification and rehabilitation services are limited in the country

Lessons learned:

- Intervention for IDUs requires holistic approach.
- Building capacity of target beneficiaries promotes sustainability
- Lack of harm reduction component often results in relapse and ineffectiveness outcome in HIV prevention intervention program.
- Income Generating Activities should also be incorporated along side HIV prevention intervention program.

Conclusions/Next steps: There is urgent need to provide intervention for IDUs through holistic approach of harm reduction. Policies regarding harm reduction must be changed to create enabling environment for such programs in Nigeria.

Increased rate of unemployment and poverty contributes to increasing numbers of IDUs. Thus the need incorporate IGAs in HIV programming.

WEPEE522
INTEGRATED TB AND HIV SERVICES FOR PREGNANT WOMEN LIVING WITH HIV IN MASHONALAND EAST PROVINCE, ZIMBABWE: OPPORTUNITIES AND CHALLENGES IN LOW-RESOURCES SETTINGS

Background: HIV prevalence has been followed by increases in tuberculosis morbidity and mortality in PLHIV. In Zimbabwe approximately 69% of TB cases are co-infected with HIV. With pregnant women accessing antenatal care (ANC) services reporting 15.9% HIV prevalence, an integrated approach for TB/HIV services is required for good maternal health outcomes and elimination of new HIV and TB infections among children. In partnership with the Ministry of Health and Child Care, Mashonaland East Province assessed opportunities and challenges to integration of TB/HIV services for pregnant women in ANC.

Description: In November-December 2014, the PEPFAR/USAID funded OPHID Families and Communities for the Elimination of HIV (FACE) program supported an assessment of integration of TB/HIV services for pregnant women. A total of 10 health facilities (four hospitals and six primary health facilities) in two of 56 districts served by OPHID were randomly selected for assessment using routinely collected program data and interviews with nurse-in-charge at each facility.

Lessons learned: Between October 2013 - September 2014, 15.9% of 3,477 pregnant women who accessed ANC services were HIV positive. Although, 99% of the HIV positive women were symptom screened for TB, only 1% (4/554) successfully received TB diagnosis and care services. The large number of women accessing ANC services reflects an important opportunity for integrating TB/HIV services particularly early detection of TB in high risk PLHIV prior to presentation of symptoms. However, challenges were presented in offering integrated TB/HIV services; lack of documentation of the screening outcomes; weak or poor communication and sharing of information systems between services, specifically in referral based model of integration at hospital level; and inconsistency of sputum sample collection at primary healthcare facilities.

Conclusions/Next steps: Strengthening integration of TB/HIV services for pregnant women in ANC in Zimbabwe has potential to significantly contribute to the reduction of TB morbidity and mortality in PLHIV and prevent secondary infections in infants. Addressing the structural challenges affecting provision of integrated services at both primary and hospital levels through coordinated monitoring and documentation of services provided can support active follow-up of patients by healthcare providers and hence minimise lost opportunities along the TB/HIV continuum of care.
A FRAMEWORK FOR PROVISION OF INTEGRATED MATERNAL AND CHILD HEALTH (MCH) AND HIV SERVICES IN PRIMARY HEALTH CARE (PHC) CLINICS IN ONE DISTRICT OF KWAZULU-NATAL, SOUTH AFRICA

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Background: Post-natal follow up of HIV-infected mothers and their infant’s remains challenging despite high immunisation coverage over the same time period; many HIV-infected mothers and their babies leave-child/immunisation clinics without receiving ongoing HIV care. Co-delivery of services is one approach to improve accessibility and uptake of services. Our project aimed to develop a replicable framework for implementation of integrated MCH/HIV services for mothers and babies attending well-child clinics.

Description: A multipronged quality improvement intervention was implemented in five PHC clinics from October 2013- September 2014. A minimum package of care for mother-baby pairs was defined in partnership with the clinic team, as well as roles and responsibilities for all health workers providing MCH services. Using a patient-centred approach the care pathway for mother-baby pairs through the clinic was re-organised, and staff and equipment re-deployed to provide comprehensive care efficiently and effectively. A skills audit identified skills gaps and relevant training was provided. The community was empowered to demand integrated MCH and HIV services through engagement with community health workers (CHWs). These changes were achieved through two-weekly mentoring visits with clinic teams, including CHWs, over the one-year intervention period, and quarterly peer-to-peer learning sessions. Formal training was provided for enrolled nurses and CHWs.

Lessons learned: The intervention was supported by a framework comprising strong leadership and vision at all levels, supportive policy framework, and monitoring and evaluation. Three pillars underpinned the programme: community engagement; teamwork; patient-centred approach. Integrated MCH/HIV services were successfully implemented leading to improvements in uptake of HIV services. Different cadres of health workers worked together in one consulting room to provide a full range of care, improving teamwork in the clinic and facilitating peer-to-peer learning. Checklists were used to ensure mother-baby pairs received all essential services. CHWs successfully created demand for integrated services among mothers in the community.

Conclusions/Next steps: We present a framework for implementation of integrated MCH and HIV services to increase accessibility, uptake of services and retention in care for HIV infected mothers and their infants. This approach is currently being tested in preparation for large scale roll out.

IMPROVING MANAGEMENT OF TUBERCULOSIS IN PEOPLE LIVING WITH HIV IN SOUTH AFRICA THROUGH INTEGRATION OF HIV AND TUBERCULOSIS SERVICES: A PROOF OF CONCEPT STUDY

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Background: South Africa’s tuberculosis (TB) burden is the third highest in the world. The country has made enormous progress in testing TB patients for HIV. WHO reports that as of 2012, 84% of TB patients had been tested for HIV. However, as TB and HIV services in the public sector in South Africa are usually provided by different sets of health providers, effective screening and testing of persons living with HIV for TB lags behind testing TB patients for HIV. This operational proof of concept study tests an approach to improve the management of TB patients living with HIV in South Africa by integrating TB management into HIV services.

Methods: The intervention was implemented in July 2015 in three primary health care facilities in Gert Sibande district, Mpumalanga Province. All health personnel who provide services to persons living with HIV were trained to test their patients who exhibit one or more TB symptoms for the disease, and initiate and monitor treatment as indicated. This is in contrast with the usual practice of referring patients to the TB providers for testing and treatment. The records of persons living with HIV who tested positive for TB between July and December 2015 are reviewed through the six-month treatment period to assess treatment outcome.

Results: Between July and December 2015, 1658 patients were tested for TB at the three facilities; 394 (23.8%) by HIV providers and 1,264 (76.2%) by TB providers. The percentage of patients who tested positive for TB was similar for both providers (HIV: 8.9%, n=35; TB: 9.6%, n=156), as was the proportion who completed the two-months intense phase of treatment (6.3% and 6.9% for HIV and TB providers, respectively). Preliminary results indicate that HIV providers are willing and able to provide TB treatment to their patients.
Community care with health facility services

WEPEE527

CHRONIC CARE IN AFRICA: HOW THE EXPERIENCE WITH EXPANDING ANTIRETROVIRAL TREATMENT PROGRAMMES FOR HIV CAN SERVE PATIENTS WITH OTHER CHRONIC CONDITIONS

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Background: Countries in sub-Saharan Africa face the daunting task of providing anti-retroviral treatment (ART) to millions of HIV-infected patients and responding to the increase of chronic, non-communicable diseases (NCDs). The aim of this research was to examine how HIV care had transformed, since ART was introduced, and to what extent these experiences could be used to serve patients with other chronic conditions.

Methods: A mixed methods study was conducted in Ethiopia, Malawi, South Africa and Zambia between 2011-2014, focusing on adaptations in primary care. Per country, three community home based care programmes (CHBC) served as study sites, incorporating primary health clinics. Methods consisted of semi-structured/structured interviews, focus groups, service observations, and a questionnaire survey. Interviews were held with 49 informants from national level, 71 informants from CHBC sites, 98 clients and 99 family caregivers. 17 programme staff and 65 community caregivers participated in focus groups. Further in-depth exploration in Zambia on health policy and service changes entailed interviews with 18 national and 17 district level informants, and group discussions with 36 caregivers. Questionnaires were disseminated to 46 CHBC programmes. SPSS and Atlas.ti software were used in the data analysis.

Results: The study found many innovations which facilitated the expansion of ART and provision of chronic care at primary levels. Examples include treatment simplification, task delegation, diversification of CHBC services and mentoring by caregivers and peers to support patient ‘self-management’, a key principle of chronic care. CHBC programmes started serving patients with NCDs and, in three of the four countries, the governments were seeking to formally integrate CHBC into primary health services. Our findings revealed the emergence of an ‘African chronic care model’, in which community involvement and linkages between health and social welfare services were featured prominently.

Conclusions: The large scale introduction of ART in sub-Saharan Africa spurred the development of chronic care, implicating a wide range of actors. This provides a strong base for addressing the region’s epidemiological changes as well as maintain millions of HIV patients on treatment. CHBC programmes are critical as they not only expand the reach of clinical services but also promote patient and family participation in managing chronic conditions.

WEPEE528

INTEGRATING COMMUNITY HEALTH SERVICES AND HEALTH FACILITY PMTCT PROGRAM: LESSONS FROM THE FEEDING BUDDIES WINDOW OF OPPORTUNITY PROJECT, KWAZULU-NATAL

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Background: PMTCT services have been routinely available for more than 10 years in South Africa. Despite the availability of effective treatment protocols and infant feeding guidelines, adherence remains a challenge.

Description: The Feeding Buddies intervention provides peer-based support for pregnant and post-partum women. Pregnant women and ‘buddies’ of their choice were trained on essential PMTCT and health behaviours and skills, including of antenatal care, birth preparedness, adherence PMTCT behaviors, exclusive breastfeeding and postnatal care. The project was implemented and evaluated in 8 sites in two sub-districts, KwaZulu Natal through the Window of Opportunity (WinOp) project, 2014-2015. Data obtained from 135 participants showed the following:

Lessons learned:

Women’s selection of known buddy (friend, family member, and partner) showed more consistent and greater levels of support than community health workers. Despite a growing trend to utilise CHWs for community mobilization, leveraging intimate connections resulted in greater follow up, adherence, and reduced potential stigma.

More mothers were trained at community level than facilities and extended their membership often attended training. Community-based and socially networked intervention created broader platform to address societal issues, beliefs, and stigma within the community, potentially reducing pressure women might feel at home.

Messaging on exclusive breastfeeding overshadowed messaging around continued breastfeeding. Balanced and consistent messaging on both exclusive and continued breastfeeding need to be stressed in materials and campaigns.

Enrolment of women and buddies was time and labor intensive though greater integration of nursing staff reduced added time and improved harmonization of services.

Conclusion: Despite growth of Feeding Buddies in South Africa, the number of women and buddies was high and resulted in gains within the PMTCT programme.

[Feeding Buddies Findings & lessons learned]

Conclusions/Next steps: Expanding and integrating existing intimate social networks in the community into health services highlighted the importance of moving beyond the basic reliance on community-level volunteers, and provided additional coverage that traditional health care cannot provide.

Integration of HIV and non-communicable diseases (NCD) services

WEPEE529

INTEGRATING HIV AND NCD PATIENTS IN ADHERENCE CLUBS IN KIBERA, KENYA: A QUALITATIVE STUDY

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Background: The number of people on antiretroviral therapy (ART) for the long-term management of HIV in low- and middle-income countries (LMICs) is continuing to increase, along with those suffering from Non-Communicable Disease (NCDs). The need to provide large volumes of HIV patients with ART has led to significant adaptations in medication delivery (including facility clubs and community adherence groups), but access to NCD care remains limited, particularly in resource-poor settings. In 2013, Medication Adherence Clubs (MACs) were introduced as an alternative to standard care for stable NCD patients. MACs enable combined groups of up to 30 HIV/NCD patients to collect medication refills every three months, rather than through individual appointments.

Methods: In 2015, we conducted a qualitative research to assess patient and healthcare worker perceptions and experiences of MACs. A total of 106 MAC and non-MAC patients and health-care workers participated, and 19 in-depth interviews, 10 focus group discussions and participant observation were conducted. Data were translated and transcribed and a coding framework developed before analysis using NVivo (version 10, 2012). Routine data were also analysed to determine the characteristics of MAC patients and the number of MAC meetings held.

Results: During the first year of implementation, 109 MAC meetings took place, representing 2208 individual refills. Most (64%) MAC members were female; 71% were HIV-positive. MACs were perceived as acceptable, time-saving, and a valuable source of information about chronic diseases and peer-support by HIV-positive and NCD patients. Implementation challenges included recruitment, patients’ understanding of MACs, and the timing of clubs. A small number of HIV-positive patients felt integrated groups affected disclosure.

Conclusions: Applying lessons learned from large-scale HIV drug rollout can aid the provision of medication and peer-support to large numbers of stable patients with chronic illness. Through MACs, we have demonstrated that an innovative, integrated approach to repeat prescribing for chronic diseases including HIV can be implemented in resource-poor settings. Extending models of care previously only offered to HIV-positive cohorts to NCD patients allows for the efficient management of co-morbidities and enables patients to benefit from faster refills, health education and peer support.
WEPEE530
INTEGRATION OF CARDIOVASCULAR DISEASE RISK FACTOR (CVDRF) SCREENING INTO HIV SERVICES: A TIME-MOTION STUDY OF CVDRF SCREENING AMONGST PATIENTS ON HIV TREATMENT AT AN URBAN HEALTH FACILITY IN SWAZILAND

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Background: In sub-Saharan Africa, the burden of cardiovascular disease (CVD) amongst persons living with HIV (PLWH) is high and rising rapidly. Screening and management of modifiable CVD risk factors (CVDRF) including diabetes, dyslipidemia, hypertension and tobacco smoking are recommended for PLWH but are not routinely provided in low-resource settings, where concerns about feasibility are often cited. We conducted a time-motion study of CVDRF screening in a large urban antiretroviral treatment (ART) clinic in Swaziland to assess the feasibility of integrating CVDRF screening into HIV care by assessing its impact on patient flow and HIV service delivery.

Methods: A convenience sample of PLWH ≥40 years attending routine ART clinic visits at Raleigh Fitkin Memorial Hospital was screened for CVDRF, including: hypertension using two blood pressure (BP) measurements; cigarette smoking using patient interview; and diabetes and dyslipidemia using point-of-care (POC) blood tests. We used validated time-motion study methodology to measure visit time spent receiving HIV care and CVDRF screening. Using Wilcoxon rank-sum tests, we compared screened and unscreened patients to assess total visit time and time spent receiving HIV-specific services.

Results: To date, we have observed 143 patient visits (93 including CVDRF screening and 50 without). Visits including CVDRF screening took significantly more time than visits without screening (median range: 15 [10-30] minutes vs. 4 [2-11] minutes, p< .0001). No difference was detected in the amount of time spent providing HIV-specific services (median range: 5 [3-12] vs. 5 [3-11] minutes, p=.389). The median (range) number of minutes spent on the most time-consuming components of CVDRF screening were: 12 (6-22) minutes obtaining finger-stick samples and performing POC analyses, 3 (1-4) minutes measuring BP, and 2 (2-4) minutes providing behavioral counseling. Nurses were able to “multitask” during POC analysis, providing ART refills and behavioral counseling and performing screening results in patient medical records while waiting for POC test results.

Conclusions: Provision of CVDRF screening more than tripled the length of routine ART appointments but did not reduce the time spent on HIV services. Program managers need to take into account longer visit duration in order to integrate periodic CVDRF screening into HIV programs which could provide lessons learned for possible scale-up. To address these findings, the project identified a number of research areas around data, health promotion, and NCD care in PLWH. Specifically, the priority research areas are:

- Document NCD burden for PLWH
- Develop NCD electronic medical records
- Health Promotion
- Establish community of practice platforms
- Evaluate integrated care campaigns
- NCD care for PLWH
- Develop, assess, scale-up integration models
- Strengthen supply chain
- Develop innovative NCD diagnostics
- Investigate NCD treatment for PLWH
- Investigate integrated care campaigns
- NCD care for PLWH
- Develop, assess, scale-up integration models
- Strengthen supply chain
- Develop innovative NCD diagnostics
- Investigate NCD treatment for PLWH
- Investigate integration effect on care

Conclusions: As countries and funding agencies strive to offer quality care to PLWH, addressing these priority research questions will provide an evidence-base and generate practical approaches that can successfully enhance HIV platforms to deliver more comprehensive care to PLWH.

WEPEE531
CAN HIV/AIDS INFRASTRUCTURE BE LEVERAGE TO IMPROVE RHEUMATIC HEART DISEASE CARE IN UGANDA?

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Background: Substantial investment over the past 15 years has successfully scaled-up HIV/AIDS healthcare infrastructure in sub-Saharan Africa; however, spending on HIV/AIDS has overshadowed spending on endemic non-communicable diseases such as rheumatic heart disease (RHD). Translating infrastructure gains in HIV/AIDS to other chronic diseases is a priority for health systems in the region.

Description: As a founding country partner of the RHD Action Alliance (Rhaction.org), we aim to leverage existing HIV/AIDS infrastructure and long-standing USA-Uganda collaborations to create a RHD surveillance and treatment program in Uganda. Case Western Reserve University has collaborated with the Joint Clinical Research Centre (JCRC, a national network of HIV clinics), the Uganda Heart Institute (UHI), Makerere University and other Ugandan and global partners to: 1) create a national RHD registry to monitor disease progression and adherence to treatment,
**WEPEE533**

**FROM PILOT TO NATIONAL SCALE UP: THE LEGACY OF PATHFINDER INTERNATIONAL-ETHIOPIA'S SINGLE VISIT APPROACH FOR CERVICAL CANCER PREVENTION AMONG HIV-POSITIVE WOMEN**

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**Background:** Although highly prevalent, cervical cancer (CC) remains a leading cause of cancer-related deaths for women in low- and middle-income countries. This is the case in Ethiopia, where access to effective preventive services is often absent or inadequate. Furthermore, CC disproportionately affects women living with HIV.

In 2009, Pathfinder International, in collaboration with the Federal Ministry of Health (FMoH) of Ethiopia, launched Ethiopia’s first pilot single visit approach (SVA) project for cervical cancer prevention (CCP) among HIV positive (HIV+) women.

**Methods:** The pilot project included competency-based training for health care workers on the SVA for CCP. Training included the visual inspection of the cervix with acetatic acid wash (VIA) screening and immediate cryotherapy or Loop Electrosurgical Excision Procedure (LEEP) treatment of cervical precancerous lesions. From October 2010 to September 2014, educational materials were distributed, training curricula adapted, and services made available to HIV women in 14 selected public hospitals, including 5 centers of excellence hospitals. Project facilities’ aggregated client data is used for the description of services offered.

**Results:** While the project’s original target was to screen 5,000 HIV+ women for CC, ultimately 18,193 HIV+ women were screened. Of those, 1,879 (10.3%) were found to be VIA positive. Ninety-four percent of VIA positive women received cryotherapy or LEEP treatment. Among those treated, 805 (56.2%) returned for a follow-up visit the next year. During that follow-up visit, 92% of patients were found to be VIA negative. One hundred and ten women (0.6%) suspected of having CC were referred for further treatment.

With the pilot project’s guidance and technical support, the FMoH of Ethiopia developed its national CCP and control program guidelines. The FMoH also adopted the project’s educational materials. Using the project-established facilities as training and referral centers, the FMoH is currently scaling-up the program to 118 facilities with plans to expand to all national facilities.

**Conclusions:** The CCP pilot project has provided a comprehensive foundation for CC screening and has made a significant contribution to the scale-up of Ethiopia’s national CCP program, as well as to the global body of evidence supporting this strategy.

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**WEPEE535**

**HIGH HIV PREVALENCE AMONG PATIENTS WITH NON-AIDS-DEFINING CANCERS AT A NATIONAL REFERRAL HOSPITAL, KENYA**

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**Background:** HIV has been associated with an increased risk of cancer. Despite adoption of provider-initiated counselling and testing guidelines, HIV testing is not routinely offered to patients diagnosed with cancer; missing an opportunity to identify those who are infected and provision of integrated HIV and cancer care.

**Methods:** Cancer patients whose diagnosis was confirmed by histology/cytology and enrolled for cancer care at Kenyatta National Hospital between April 2014 and July 2015 were included. Patient demographics, HIV testing history, diagnosis and treatment records were collected from medical files, laboratory and autopsy records. Cancer diagnoses were classified using ICD-10 codes. Categorical variables were summarized using proportions and an F-test to compare testing rates across age groups. Only primary tumors were included.

**Results:** Of 6603 cancer patients reviewed, only 1653 (25.03%) had a HIV status indicated. The median age was 46 years (IQR 36, 56) and 1094 (66%) were female. Children and older adults were less likely to be tested. (below 15 years (5%), 15-34 years (19%), 35-54 years (50%), 55-75 years (24%) and above 75 years (2%) (p<0.001).

The cancer types with the highest proportion of people tested were Kaposi’s sarcoma (73%), non-Hodgkin’s lymphoma (48%) and cervical cancer (43%). All AIDS-defining cancers (ADCs). Among non-AIDS defining cancers (non-ADCs), the high-est proportion of testing was observed in vulvar cancer (ICD-10 code C51) at 57%, C56 ovarian cancer (27%) and C69 cancer of the eye and adnexa (26%). Only 17% of breast cancer patients were tested.

Among those who were tested for HIV, 556 (33.6%) tested positive for HIV. Of these, the proportion who tested positive among non-ADCs was 75% in vulvar cancer, 72% in cancer of the eye and adnexa, 29% in oesophageal cancer, 28% in breast cancer and 25% in ovarian cancer.

**Conclusions:** Overall HIV testing rate was low with slightly higher testing rates among ADCs. HIV prevalence was high even among people with non-ADCs. HIV testing should be offered to all cancer patients to identify those who are infected and facilitate integrated care for both HIV and cancer for improved outcomes in both conditions.
WEPEE536
TOWARDS INTEGRATING HIV AND NCDs: FEASIBILITY OF COMBINED HIV AND HYPERTENSION SCREENING AMONG PREGNANT WOMEN IN RURAL INDIA

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Background: There is a double burden of HIV and hypertensive diseases among pregnant women in low and middle income countries. In India, hypertension in pregnancy is a leading cause of maternal deaths. In addition, only a third of pregnant women get tested for HIV in India. This study assessed the feasibility of integrating HIV and hypertension screening among pregnant women by community health workers (CHW) known as frontline functionaries in rural India.

Methods: Between Jan and April 2015, 144 consenting pregnant women (aged 19-35 years) in rural Maharashtra and Telangana were offered combined HIV screening using OraQuick® kits and hypertension screening using portable digital Microlife AS1-2, a semi-automated oscillometric blood pressure by CHWs. This machine fulfills the WHO requirements for use in low-resource settings. Semi-structured interviews were used to obtain information from pregnant women and CHWs on feasibility of these integrated screening services. All analyses were performed using IBM SPSS Statistics V.22.

Results: Overall, 94% pregnant women received integrated HIV and hypertension screening at their village sub-center. Both the screening tests were completed under 40 minutes in 96% of the women. A total of 72 CHWs were trained on these techniques. Few women reported apprehension related to the accuracy of HIV oral test and positive HIV test result. Nearly 97% of pregnant women believed that integrated screening could encourage more women to test for HIV, reduce travel time and cost. 66% of CHWs indicated that their workload has reduced because of these new screening tools and 93.3% believed that their skills had increased. Overall 90% reported that it is feasible to conduct integrated services near their home or sub-centers.

Conclusions: Community-based and CHW-led integration of HIV and hypertension screening using OraQuick® kits and portable digital Microlife AS1-2 respectively for pregnant women is feasible within the public health system of rural India.

WEPEE537
EFFECTIVENESS OF AN INTEGRATED CHRONIC DISEASE MANAGEMENT MODEL IN IMPROVING PATIENTS’ CD4 COUNT AND BLOOD PRESSURE IN A RURAL SOUTH AFRICAN SETTING: CONTROLLED INTERRUPTED TIME SERIES ANALYSIS

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Background: South Africa faces a dual burden of HIV/AIDS and chronic non-communicable diseases (NCDs). In 2011, a pilot Integrated Chronic Disease Management (ICDM) model was introduced by the national health department into selected Primary Health Care (PHC) facilities, one of the first of such efforts by an African ministry of health. The aim of the ICDM model is to leverage an established HIV treatment programme for NCDs for better health outcomes. This study assessed the effectiveness of the ICDM model in controlling key health indicators, blood pressure (BP) and CD4 counts, of patients treated in PHC facilities in the rural Bushbuckridge municipality of Mpumalanga province.

Methods: A controlled interrupted time series study was conducted for 30 months beginning from January 2011 to June 2013. Patients ≥ 18 years were recruited by proportionate sampling from the ICDM pilot (n=435) and comparison (n=443) facilities. Health outcome data for each patient were retrieved from health facility records six months before the initiation of the ICDM model and 24 months during implementation of the model. Control of BP and CD4 counts were defined as BP <140/90 mmHg and CD4 counts >350 cells/mm^3, respectively. Two-level segmented linear models were used to postulate on the severity of disability and postulate on the burden of care.

Results: The pilot facilities had a 5.7% (coef=-0.057; 95% CI: 0.066,0.058; P<0.001) and 1.0% (coef=-0.010; 95% CI: -0.013,0.016; P=0.002) greater likelihood than the comparison facilities to control patients’ CD4 counts and BP, respectively. The decreasing probabilities of controlling CD4 counts and BP observed before the implementation of the ICDM model in the pilot facilities were respectively reduced by 0.23% (coef = -0.0023; 95% CI: -0.0026, 0.0021; P< 0.001) and 1.5% (coef = -0.015; 95% CI: -0.016, 0.014; P< 0.001).

Conclusions: Application of the ICDM model appeared effective in reducing the decreasing trend in controlling patients’ CD4 counts and blood pressure; hence, the HIV programme should be more extensively leveraged for hypertension treatment in health facilities in South Africa and other low- and middle-income countries.

WEPEE538
EARLY EXPERIENCES OF INTEGRATING NON-COMMUNICABLE DISEASE SCREENING AND TREATMENT IN A LARGE ART CLINIC IN ZOMBA, MALAWI

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Background: ART programs represent the first large scale chronic disease systems in Africa and can be leveraged to manage the growing burden of non-communicable diseases (NCD). This offers the opportunity for integrated HIV-NCD care, which may reduce HIV stigma, increase access to NCD care and improve adherence through reduced travel to clinics.

Description: Tsungane HIV clinic at Zomba Central Hospital has 6550 patients receiving treatment. In October 2015 a model of integrated HIV-NCD care was developed. Clinical protocols for hypertension and diabetes screening and treatment were developed combining international literature and National Treatment Guidelines. All HIV clinic staff (n=27) were trained during 2 day sessions. Blood pressure was measured on adults at every visit and random blood glucose every two years provided to determine blood pressure was. It was repeated at that visit and confirmed on a subsequent visit before hypertension was diagnosed. Only patients with stage 2 hypertension (systolic>160 and/or diastolic=100) or those with stage I hypertension and cardiovascular risk factors were given antihypertensive drug treatment. If random glucose was high, it was confirmed with a fasting glucose, using WHO thresholds. All measurements were done by lay health workers and expert clients who received stipends. Combined ART-NCD treatment was provided by clinical officers, uncomplicated ART-only care by nurses.

Lessons learned: In the first three months >9,000 adults and children attended HIV care, of whom >4,300 had ≥ 1 blood pressure recorded and >3,100 had ≥1 glucose readings measured. Five expert clients/lay health workers were employed for the additional care burden. This was manageable as the prevalence rates of stage 2 hypertension and diabetes were low (7.2% and 0.8 % respectively). The less-flexible vertical nature of the ART system made the design of integrated tools including electronic data capture challenging. Process mapping and patient flow were utilized to decrease missed screening opportunities. Integration of NCD care increased workload and consultation time.

Conclusions/Next steps: Screening and treatment of hypertension and diabetes in single “one-stop” HIV-NCD clinic appears feasible. Prioritizing pharmacological hypertension treatment to those with the largest benefit contributed to feasibility of integrated treatment.

WEPEE539
HIV AND STROKE IN ZIMBABWE: A CROSS SECTIONAL STUDY

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Background: Stroke occurrence now epidemic due to non-communicable diseases and HIV. HIV now thought to be a direct cause of stroke. Incidence of HIV in Zimbabwe has decreased but there are still many people living with HIV who are prone to suffer stroke. Being HIV positive and suffering a stroke may increase disability in those affected and result in double caregiver strain in those who look after the stroke survivors. Study aimed to determine the proportion of stroke survivors tested for HIV and found positive and willing to disclose status to caregivers. The study also aimed to determine the severity of disability and postulate on the burden of care.

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WEPEE541
HIV RISK REDUCTION PROGRAMS FOR PEOPLE IN PUBLIC PSYCHIATRIC CARE IN BRAZIL: TREATMENT AS USUAL?

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Background: The reasons that people with severe mental illness (SMI) have higher rates of HIV infection than the general population in most countries where rates have been ascertained are complex and not fully elucidated. A critical lack of data leaves policy-makers and practitioners with scant basis for planning programs to reduce the dramatic health effects of HIV/AIDS among those with SMI. This study aims to report results of a risk reduction program for SMI in Brazil. People with SMI do not receive HIV-related services in their mental health treatment settings due to significant barriers including lack of funds and inadequately trained staff. This is the first report of effects of treatment-as-usual risk-reduction program participation on sexual protective behaviors by people in care in the public mental health treatment system in Brazil.

Methods: Participants were 641 consenting adults attending public outpatient psychiatric clinics or day-hospitals in one of nine settings in Rio de Janeiro. As part of standard clinical care, informal sexual health drop-in group education sessions are offered throughout the system but are not a routine component of care. Participants were assessed for program participation, HIV testing history and knowledge, psychiatric diagnoses (Mini International Neuropsychiatric Interview-PLUS), and sexual protective behaviors (Sexual Risk Behavior Assessment Schedule) in the last three months.

Results: Participants were female (58.0%), with a mean age of 42.5 years; multiracial (47.7%), white (32.8%), or black (19.5%); and 46.8% were married/in a long-term relationship. Most participants (72.8%) had diagnoses consistent with SMI; 1.4% had comorbid substance use disorder. Prior risk-reduction program participation was reported by 58 (9.0%) study participants. Those with this experience were more likely to have higher HIV knowledge (p=0.04) and to have been HIV tested in the last three months (p=0.02) than those who had not received risk-reduction program.

Participants who did not receive this programming were more likely to have described themselves as black or multiracial than white (p<0.001). No associations were found between risk-reduction program participation and gender, education, marital status, psychiatric diagnosis, or any sexual risk-reduction behaviors.

Conclusions: Benefits accrued to the few mental health service users who received clinical HIV risk-reduction programming; however, more inclusive intervention is needed to enhance sexual protective behaviors among those in public psychiatric treatment.

WEPEE540
QUALITY OF CHRONIC DISEASE CARE IN RURAL SOUTH AFRICA: USER AND PROVIDER PERSPECTIVES

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Background: The integrated chronic disease management (ICDM) model was introduced as a response to the dual burden of HIV/AIDS and non-communicable diseases (NCDs) in South Africa, one of the first of such efforts by an African ministry of health. The aim of the ICDM model is to leverage HIV programme innovations to improve the quality of chronic disease care. There is a dearth of literature on the inclusion of HIV care in available programs is recommended.

Methods: This was a cross sectional study. Patients with stroke admitted at three hospitals in Harare participated. Recruitment was done in the wards 48 hours after admission between April 2015 and January 2016. A researcher administered questionnaire was used to collect information. Disability severity was assessed using the Functional Independence Measure (FIM). Informed consent or assent was obtained from the patients or their relatives. Ethical approval was sought and obtained from relevant ethical review boards. Data was entered into Excel and exported to Stata 13.0 for analysis to generate means and standard deviations, medians and inter quartile ranges (IQR), frequencies and percentages.

Results: A total 149 patients participated. Most patients were female (62%). Group mean age was 58.9±16.7 years with no significant difference in mean age between males 59.8±16.0 years and females 58.3±17.1 years, p=0.586. Proportion of survivors ever tested for HIV (n=142) was 55.6%. Those who reported a positive HIV result among the tested (n=79) was 19%. Willingness to disclose the HIV status among patients (n=141) was 77.8%. Median FIM score was 41.5 (IQR: 20-68). Median Motor score was 39 (IQR: 33-104) and median cognitive score: 21 (IQR: 7-32).

Conclusions: Stroke affects more middle aged women who are traditionally caregivers. A high HIV prevalence topped with severe disability increases burden of care. There seems to be a reduction in the fear of stigma. Routine HIV testing in stroke and inclusion of HIV care in available programs is recommended.

WEPEE542
CANCER CARE IN HIV PATIENTS: FOR HOW LONG WILL WE NEED IT?

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Background: Access to combined antiretroviral therapy (cART) reduced HIV-related morbidity and mortality in low-resource countries. New morbidities are expected to increase, notably cancers, which could hinder recent advances in patient care. We report our experience on structural, cultural and economic barriers that hinder optimal care.

Description: In Cameroon since 2010, 304 patients are enrolled in two second line cART clinical trials (ANRS12169 and ANRS 12286) and have been followed over 5 years. We registered 10 cancer cases (1 anal, 2 vulvar, 1 cervical, 2 ovarian, 2 gastric, 1 hepatic and 1 ORL). The research team was involved in the follow up of these patients from the diagnosis to recovery (4) or death (6). Barriers were encountered at different stages: lack of diagnostic tools and high costs limit access to rapid diagnosis and staging (anatomopathology, neoplastic markers, CT scan). Therapeutic interventions are scanty: drugs for chemotherapy are unavailable and expensive; radiotherapy is restricted to big urban areas. Knowledge about cancer by patients and their families is limited to its possible fatal outcome con-
sequently denial, withdrawal and faith in miracle solutions replace adherence to medical interventions. The patient-care relations can be blocked by unspoken fears delaying practical organization of nursing.

In case of untreatable conditions, access to palliative care is difficult for lack of services. Pain management is nearly nonexistent because of limited knowledge and skills by care providers. Opioid use is hindered by unnecessary country restrictions.

**Lessons learned:** Information and education about cancer prevention, screening and care should be integrated in communication with HIV patients. Preventive validated interventions and active screening have their role in patients' management. Ad hoc contacts with specialized services, if existing, should be established in advance to provide rapid response in case of suspect and diagnosis. Palliative care and in particular access to opioid have to be implemented rapidly.

**Conclusions/Next steps:** Training of health care providers on cancer management from prevention to follow up of untreatable cases is important in HIV care and the essential package for cancer care should be introduced in HIV services. If we continue to neglect, we will be failing comprehensive care.

**WEPEE543 ACCEPTABILITY OF INTEGRATED HOME-BASED SCREENING FOR HIV, TB AND NON-COMMUNICABLE DISEASES IN RURAL SOUTH AFRICA**

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**Background:** The formal health system in South Africa is inadequate to meet primary care needs in rural areas, where rates of HIV/AIDS and tuberculosis are among the highest in the world and rates of non-communicable diseases (NCDs) are rising. One promising strategy to address this dual burden is decentralization of healthcare roles to community health workers (CHWs). However, the health system in South Africa has incorporated CHWs in a fragmented manner, with the majority of CHWs trained in just one disease or program.

**Description:** We seek to evaluate acceptability of CHW-led, home-based, integrated screening in traditional Zulu households in rural KwaZulu-Natal. Eleven CHWs were trained to provide integrated counseling and household screening for hypertension, diabetes, TB, and HIV. CHWs screened 2898 individuals between February and December, 2015. Forty-eight community members then participated in a detailed questionnaire in Zulu.

**Lessons learned:** Screening participants were 82% women and had a median age of 42 (IQR 27-60). Fifty-one percent of participants accepted HIV counseling and testing, diabetes, TB, and HIV. CHWs screened 2898 individuals between February and December, 2015. Forty-eight community members then participated in a detailed questionnaire in Zulu.

**WEPEE544 DOES ENROLLMENT IN HIV TREATMENT PROGRAMS LEAD TO A COMPARATIVE ADVANTAGE IN ACCESS TO CARE FOR CARDIOVASCULAR DISEASES? DATA FROM KWAZULU NATAL, SOUTH AFRICA**

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**Background:** Access to services for Non-Communicable Diseases (NCDs) is limited in most of Sub-Saharan Africa. Being enrolled in an HIV treatment program may offer some advantages in accessing these services due to regular exposure to healthcare. **Methods:** We linked population survey data on measured blood pressures in KwaZulu Natal to records from HIV treatment programs in the same region for the years 2003 and 2010. We used logistic models to estimate the determinants of being on treatment for hypertension in 4444 individuals.

**Results:** Holding other factors constant, women, married individuals and those living in urban or peri-urban areas had a higher likelihood of being on treatment for hypertension [adjusted odds ratios (aOR): 3.22, 95% Confidence Interval (CI): 2.70-3.84, aOR: 1.26, 95% CI: 1.07-1.48, and aOR: 1.26, 95% CI: 1.06-1.51, respectively]. Household wealth was not associated with likelihood being on treatment (P for trend = 0.3). HIV positive individuals on antiretroviral therapy and those in HIV general care were not more likely to be on treatment for hypertension than those in the general population (aOR: 0.96, 95% CI: 0.72-1.28, and aOR: 1.06, 95% CI: 0.76-1.48).

**Conclusions:** Access to treatment for hypertension is influenced by individual characteristics and by health system-related factors. Whereas priority should first be given to broader health system factors that affect access to health services for all NCDs, emphasis should also be placed on harnessing the existing opportunities of integrating NCD services into regular HIV treatment and care.

**WEPEE545 INTEGRATING HIV SERVICES WITH THOSE ADDRESSING SOCIAL DETERMINANTS OF HEALTH (E.G., POVERTY, EDUCATION, SANITATION, HOUSING, CLEAN WATER), INCLUDING ECONOMIC STRENGTHENING AND SOCIAL PROTECTION PROGRAMMES.**

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**Background:** People living with HIV (PLHIV) and children born to HIV positive mothers are more susceptible to Water Sanitation and Hygiene (WASH) related illnesses than those not infected. Preventing these illnesses still remains a challenge. An estimated 78,137 people were living with HIV in Kambu and Muranga’s counties in Kenya in 2014 , 9% being children < 14 years. Amref Health Africa in Kenya with funding from USAID PEPPAR through APHIAPlus KAMILI project (2011-15), targets 10,979 PLHIV (8,555 adults, 2,424 children) to enhance their access to quality care and health services for prevention of Water-Borne Illnesses in Kiambu and Muranga Counties of Kenya.

**Methods:** Amref Health Africa in Kenya, HIV/TB/Malaria Programme, Nairobi, Kenya, 2Amref Health Africa in Kenya, HIV/TB/Malaria Programme, Nairobi, Kenya, 3Amref Health Africa in Kenya, Monitoring, Evaluation and Research, Nairobi, Kenya

**Description:** In 2013, the Ministry of Health in Kenya (MoH) partnered with USAID WASHPlus to roll out WASH-HIV integration model to partners and MoH to prevent WASH-related illness. Amref Health Africa in Kenya targeted 9,654 households with Small Durable Actions (SDAs) in WASH-HIV services. Households with PLHIV were 75% (7,215) and had 10,979 PLHIV (m=38%, f=62%). By mid-2014, through community units and Community Quality Improvement teams, 9,505 households were using pit latrines, 8,276 were practising hand washing while 8,682 were practising safe water storage and purification.

**Lessons learned:** A retrospective review of WASH related illnesses was conducted in November 2015 covering the period 2012-2015. Main focus was on diarrhea, typhoid, dysentery and intestinal worms cases. Routine data from 9,654 households recorded in Community Health Volunteers and Home Based Care diaries in 8 Local Implementing Partners databases and District Health Information System databases for Kiambu and Muranga Counties were utilized and compared. Between 2012 and 2015, among the targeted households, diarrhoea reduced by 41.9% (n=1560) vs 51.1 % (n=96,673) increase in counties cases. Dysentery cases among targeted households increased by 38.8 % (n=67) compared to 74 % (n=1160) increase for
WEPEE546

CLINICAL CARE ALONE IS NOT ENOUGH. ADDRESSING ECONOMIC AND SOCIAL VULNERABILITY IMPROVES CLINICAL HIV OUTCOMES: LESSONS FROM THE BHAVISHYA PROJECT IN PUNE, INDIA

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Background: Stigma, poverty, gender inequities, and poor healthcare access fuel the HIV epidemic in India. The Bhavishya (Sanskrit for ‘future’) Project improves the health and wellbeing of women, children, and families affected by HIV, TB, and poverty in Pune, Maharashtra. The objectives include increased access to government testing and treatment, support lifelong retention and adherence, and promote economic empowerment - ultimately moving clients from poor health, isolation, and vulnerability to improved health, social integration, and inclusion. The project is implemented by Keep a Child Alive, with local partners Sahara Aalhard, Sahashe, and Prayas. Over 5,000 people have accessed services through a residential care home, outreach clinics, and skill training centres.

Description: The Bhavishya Vulnerability Index (BVI) was developed to quantify clients’ physical, economic, and social vulnerability. Data were collected in two rounds using client records and interviews. Baseline included 501 adult PLHIV (69% female), of which 463 completed follow-up assessment. Differences in baseline (pre-Bhavishya) and follow-up (12+ years into the project) were analyzed using Kruskal Wallis and other non-parametric statistical measures.

Findings indicate clients’ reduced levels of vulnerability in the follow-up comparison (baseline 48.9, follow-up 28.6; a 42% reduction in overall vulnerability). Statistically significant declines in specific vulnerability categories were found. Clients with low CD4 and HIV/TB comorbidity were more likely to have poor ART adherence. Clients with anemia, low CD4, and HIV/TB comorbidity were more likely to have strained relationships and poor support group participation. Anemia, low CD4, and HIV/TB comorbidity were associated with being in financial debt.

Lessons learned: Physical, economical, and social vulnerability are strongly related. Statistically significant differences in baseline and follow-up measures of vulnerability underscore the need to integrate economic and social interventions as critical to client-centered HIV care.

Conclusions/Next steps: The BVI is useful to measure the impact of the Bhavishya (or similar) models of care, and to advocate for comprehensive approaches that address key HIV drivers, including poverty. Further work is required to validate the BVI and adapt it for use in other settings. The BVI is currently being adapted by the project as a case management tool.

WEPEE547

COMMUNITY REFERRAL SYSTEM LINKING AND SUPPORTING HIV-POSITIVE CHILDREN TO SERVICES

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Background: Despite the decline in adult HIV and AIDS prevalence, Zimbabwe continues to experience some of the worst effects of HIV and AIDS in the world, and its children are often underserved casualties of the disease. With an estimated 1 million children orphaned to AIDS, the Bantwana Initiative of World Education (WEI/B) has supported the Department of Social Welfare to develop and implement an HIV-sensitive, National Care Management System (NCMS) that reaches the most vulnerable with HTC, referrals, support and adherence to treatment.

Description: Since, 2010, WEI/B and its partners have worked with over a thousand Community Caregivers Workers (CCWs) - the frontline cadres in the care and protection of vulnerable children - to bring community-based social welfare and child protection to the most vulnerable households. In 2015, the program expanded the case management system to include an HIV sensitive training component for CCWs, with the goal of identifying vulnerable children impacted by HIV/AIDS and linking them to care and treatment. Using welfare and protection issues as an entry point, CCWs were trained to carry-out community based profiling to identify and encourage OVC to be tested and put on care, with CCW’s providing follow up support for adherence to treatment.

Lessons learned: Incorporating HIV into the NCMS was a huge shift, as CCWs previously focused solely on child protection issues. Combining child protection with exposure to HIV/AIDS was both cost effective, and has led to a 20% increase in the uptake of HIV related services for children. Additionally, children have increasingly supported to adhere to their medication. There is evidence that integrating HIV-sensitive approaches into child protection systems can enhance early detection and testing of HIV-positive children, and improve their access to care.

Conclusions/Next steps: The HIV-sensitive NCMS is currently being scaled up to all 65 districts across Zimbabwe, increasing the opportunity of reaching many more children with integrated child protection resources and HIV care and treatment.

WEPEE548

EVALUATION OF THE IMPACT OF MULTI-SECTOR INTEGRATED PROGRAMS ON UPTAKE OF HIV PROGRAMS FOR RURAL COMMUNITIES IN ZAMBIA PROVINCE OF MOZAMBIQUE: EXPERIENCE FROM SCIP OGMUAMBA PROJECT

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Background: Strengthening Communities through Integrated Programming (SCIP) project funded by USAID and implemented by a consortium of partners led by World Vision, aimed to improve the health and livelihoods of women, children and families in Zambia Province through integrated, innovative, and sustainable community-based program across multi-sector including HIV, maternal and child health (MCH), nutrition and water, sanitation and hygiene (WASH) activities.

Description: HIV intervention outcomes were compared at baseline and at endline along with MCH, nutrition, and WASH activities. HIV and AIDS intervention focused on 1) HIV prevention through community education, messages and dialogue; 2) linkages to HIV care and treatment through referral to the health facility; and 3) follow up care through home visits through Home Based Care volunteers in the health committees.

Lessons learned: Approximately 134,000 persons were counseled, tested and received their HIV results during the first five years of the project. Only 43% of respondents had ever heard of HIV counseling and testing (CT) services at baseline compared to 50% at endline. Of those who had knowledge of CT, 96.2% could correctly identify where to receive services at endline compared to 84% at baseline; and 48.8% had been tested at endline, an increase from 34% at Baseline. Of those tested, 92.7% received their HIV test results, up from 76.2% at baseline. There were significant improvements in child immunization, hospital delivery, sleeping under a bednet, stigma reduction, and access to safe water and decreases in food insecurity and severe underweight children in intervention districts.

Lessons learned:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>OR (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Underweight (-3 SD)</td>
<td>Child 6-23 months</td>
<td>0.18 (0.08, 0.41)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Full immunization (by card)</td>
<td>Child 12-59 months</td>
<td>1.73 (1.12, 2.68)</td>
<td>0.013</td>
</tr>
<tr>
<td>Health facility delivery</td>
<td>Household with &lt; 5 years old</td>
<td>1.50 (1.24, 1.81)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Ever received HIV testing</td>
<td>Household</td>
<td>1.48 (1.14, 1.93)</td>
<td>0.003</td>
</tr>
<tr>
<td>Antenatal HIV Testing</td>
<td>Household</td>
<td>2.40 (1.94, 2.98)</td>
<td>0.001</td>
</tr>
<tr>
<td>Bed net use</td>
<td>Child &lt; 5 years</td>
<td>3.48 (2.80, 4.31)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Bed net use</td>
<td>Household</td>
<td>7.67 (6.43, 9.16)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>HIV Stigma -Social exclusion</td>
<td>Household</td>
<td>4.50 pts (6.58, -2.41)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Access to safe water</td>
<td>Household</td>
<td>0.50 (0.41, 0.62)</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Conclusions/Next steps: A well-coordinated, comprehensive and integrated multi-sector health and HIV services can improve access to quality services not just to HIV services only but to other MCH, nutrition, malaria and WASH services and improve quality of life of beneficiaries.

感激

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WEPEE549

METHADONE PROGRAM INTEGRATED WITH HIV CARE: WHAT IS ITS UTILITY WITH CHANGING HIV EPIDEMIC IN POLAND

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Background: Methadone program integrated into HIV clinic was started in 1995 as an interventions to increase uptake and retention in HIV care in Central Poland. Here we evaluate the utilization of program and its suitability with changing HIV epidemic.

Methods: This is retrospective analysis of observational database cohort of cART naive, HIV-infected adults established 1994 in HIV Out-Patient Clinic, Hospital for Infectious Diseases in Warsaw. Data collected include demographic characteristics, history of clinical visits, cART and all laboratory results. In statistical analyses Chi-squared and Kruskal-Wallis tests were used for group comparisons, tests of significance were two-sided. CI of 95% was accepted.

Results: In total 267 (6.6%) of 4062 HIV-positive patients registered in HIV Out-Patient Clinic started methadone program (MET). In MET 77.6% were infected through injecting drug use (IDU), 31.1% were women and 76.4% anti-HCV (+). 30% of MET patients died as compared to non-MET patients. The comparison of baseline characteristics between MET and non-MET patients is presented in Table1.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Methadone program</th>
<th>Other patients</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDU mode</td>
<td>218 (81.6)</td>
<td>772 (20.4)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>24 (9.0)</td>
<td>694 (18.3)</td>
<td></td>
</tr>
<tr>
<td>Homosexual</td>
<td>6 (2.2)</td>
<td>1807 (47.6)</td>
<td></td>
</tr>
<tr>
<td>Other / unknown</td>
<td>19 (7.1)</td>
<td>519 (13.7)</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>83 (31.1)</td>
<td>641 (16.9)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Anti-HCV Ab positive</td>
<td>204 (76.4)</td>
<td>762 (20.1)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Anti-HBV total Ab positive</td>
<td>123 (46.1)</td>
<td>827 (21.8)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>On ARV</td>
<td>251 (94.0)</td>
<td>1179 (31.8)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Died</td>
<td>83 (31.1)</td>
<td>275 (72.7)</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Median (IQR)

Age at registration 30.24 (25.9 - 35.5) 31.23 (26.5 - 37.7) 0.015
Age at starting ARV 35.24 (30.3 - 41.2) 33.27 (28.5 - 40.0) 0.004
Age at last clinical visit 43.55 (36.6 - 49.6) 37.87 (32.0 - 45.4) <.0001
Baseline CD4 count cells/μL 440 (255 - 619) 370 (211 - 531) <.0001
Baseline HIV RNA log copies/ml 4.16 (3.32 - 4.80) 4.31 (3.39 - 4.93) 0.012

The proportion of patients infected through IDU decreased from 86.2% to 3.6%, proportion of MET patients decreased from 44.8% to 0.7% (p for trend < .0001 for both). The proportion of MET among IDU dropped from 52% to 20% in 2015 (Figure1).

Conclusion: The proportion of patients infected through IDU dropped twenty times during observed period, reflecting the changing face of HIV epidemic in Poland. However the utilization of integrated methadone program remained substantial with one in five IDU patients choosing the program. Integrated methadone program remains frequent choice of HIV-positive IDU patients.

WEPEE550

THE USAID SCORE PROJECT APPROACH RESULTS IN INCREASED HIV TESTING AND DECREASED VULNERABILITY AMONG ENROLLED HOUSEHOLDS IN UGANDA

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Background: The five-year USAID Sustainable Comprehensive Responses for Vulnerable Children and their Households (SCORE) project aims to decrease the vulnerability of critically vulnerable children and their households (VCHH) in 35 districts of Uganda. Vulnerability is measured using the SCORE-developed Vulnerability Assessment Tool (VAT), which consists of 32 questions about child protection, food security, economic strengthening, and critical services and is scored from zero to 132.

Description: SCORE involves household-tailored development plans, a graduation system, and 27 activities under four objectives. Using an extensive database of 37,125 VCHH members, SCORE undertook a quantitative assessment of how the project addresses HIV/AIDS, a common driver of vulnerability.

Lessons learned: The family-centered, household-specific approach of SCORE increased the likelihood that VCHH members would go for HIV testing. The percentage of SCORE VCHH members that did not know their HIV status decreased from 65% to 27% over four years. All HIV negative VCHH members remained negative under SCORE. In year four, 6.9% of VCHH members were HIV positive and 66.1% were negative.

Logistic regression analysis revealed that VCHH members that participated in the following activities were more likely to go for HIV testing:
- community dialogue on psychosocial wellbeing
- nutrition dialogue
- parenting skills training
- business skills training

This finding suggests that community-based education interventions were the most significant in encouraging VCHH members to go for HIV testing. *at 95% confidence interval, against 22 activities.

Overall, VCHH members saw an average decreased vulnerability of 24.4 (measured by the VAT) over four years. 47.2% of VCHH members are male and 52.8% are female. There was no significant difference between the vulnerability gains of males and females. 11.3% of VCHH members are 0-5 years, 43.8% are 6-17 years, and 44.9% are over 18 years. There was no significant difference in vulnerability gains by age category. These findings suggest that the benefit of decreased vulnerability from the SCORE project is consistent.

Conclusions/Next steps: SCORE decreased the vulnerability of VCHH members and three specific interventions encouraged HIV testing. To guide HIV programming in its two-year extension, SCORE will target sub-counties and activities that are “hotspots” for HIV positive and status unknown VCHH members.

WEPEE551

LEVERAGING HIV AND AIDS FUNDING TO STRENGTHEN HEALTH SYSTEMS BEYOND HIV PROGRAMS IN HARD-TO-REACH COMMUNITIES: THE CASE OF BIWIH A LOCAL CSO, NAMAYINGO DISTRICT, UGANDA

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Background: Money is the lifeblood of any organization; however, being scarce in nature, it has increasingly become difficult for community service organizations (CSOs) to raise funds to support HIV and AIDS and other health programs. Dolce Islands are habitable islands for fisher folks and female sex workers on Lake Victoria in Uganda in Namayingo District. In 2009, its community was found to lack functioning government health facility yet the HIV&AIDS rate in the area was at 28%. Money is the life blood of any organization; however, being scarce in nature, it has increasingly become difficult for community service organizations (CSOs) to raise funds to support HIV and AIDS and other health programs.

In addition, STAR-EC facilitated a district health team comprising clinicians, counselors, nurses, and laboratory staff to conduct regular integrated clinical outreach...
Background: Low antenatal care (ANC) attendance, postnatal care attendance and facility delivery rates; coupled with high dropout rates from programs for prevention of mother to child transmission of HIV (PMTCT) have impacted negatively on HIV services scale-up for women and children in Nigeria, especially in rural and semirural areas.

Description: UNICEF supported the implementation of a 12-month project in FCT aimed at identifying HIV positive mothers and their children during routine immunization and linking them to HIV services. FCT has an estimated HIV prevalence of 5.8% and total fertility rate of 4 births/woman. Routine service data indicates that first ANC attendance is much lower than utilization of routine immunization services (first ANC: 40,711; OPV3: 91,264). The project which was implemented at Dutse Alhaji Primary Health Centre, a semirural facility in FCT with a catchment population of 28,700, supported the integration of HIV Testing and Counselling (HTC) and routine immunization services from December 2014 to November 2015. Immunization clinic staff were trained to routinely offer HTC to mothers accompanying infants and young children to the immunization clinic, while applying defined exclusion criteria. Dried blood spot samples for virological testing were collected from HIV-exposed children, and HIV positive mothers and children linked to treatment and care onsite.

Lessons learned: 1282 pregnant women attended the facility ANC clinic during the December 2014 - November 2015 period. Of these 1282 received HTC and 52 tested positive. 7198 mothers attended the immunization clinic during the same period. After excluding those with known HIV-positive status or who had previously tested negative within the preceding 3-month period, HTC was received by 7125 women and 27 additional HIV positive mothers and HIV-exposed children (all aged less than 18 months) were identified. In the context of low ANC attendance and high fertility rate, the immunization clinic presents a second chance to identify additional HIV positive women and intervene to prevent HIV transmission during breastfeeding and subsequent pregnancies using minimal additional resources.

Conclusions/Next steps: As Nigeria considers adopting lifelong antiretroviral therapy for all pregnant and breastfeeding women, this entry point should be considered for women missed during pregnancy and delivery.

WEPEE554

FAMILY PLANNING NEEDS AMONG WOMEN AT THE BAYLOR CLINICAL CENTRE OF EXCELLENCE (COE) IN CONSTANTA, ROMANIA

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Background: With an aging HIV-infected young adult population of about 850, the COE noticed a rising trend of repeated abortions and multiparity among the HIV+ women (estimated to be at least 40% in the past 4 years). A baseline needs assessment was set up in order to guide the format of the family planning (FP) services. Description: More than 80% of the patients are young adults, sexually active, engaged in both HIV sero-concordant and discordant relationships. An assessment tool was used to collect data (obstetrical history, fertility intentions, partner’s HIV status, contraceptive methods used) from 175 women (94% HIV+ and 6% HIV).

Lessons learned: Analyzing data revealed unmet needs among the target group: specialized FP counseling and access to modern high efficient contraceptive methods; avoiding pregnancies is important for our patients (87% of women intend to avoid pregnancy) and half of them report using condoms. Abortion is common: 26% of women that use condoms had at least one such event, and from the women that wanted to limit pregnancies, 51% reported at least one abortion (average 2.3). Using condoms helps prevent HIV transmission (likely corroborated with ARV adherence and other possible factors) but it is less efficient in pregnancy prevention among our cohort; e.g. among 76 HIV positive women in sero-discordant couples who want to space pregnancies, almost 80% were using condoms and almost 60% had already had an abortion. For HIV infected persons who want to delay, space or limit births, using condoms simultaneously with an efficient contraceptive method will ensure dual protection for HIV transmission and pregnancy prevention.

Conclusions/Next steps: The family planning program needs to be built on three pillars: a) the procurement and distribution of a diversified range of free of charge contraceptive methods (IUDs, oral and injectable contraceptives, emergency contraception, and condoms);
b) on the job training of nurses on contraceptive technology and client family planning counselling;
c) behavior change communication activities for promoting available FP services and increasing demand for efficient contraceptives use among our beneficiaries.

**WEPEE555**

**TB GUARD PROGRAM: A CASCADE OF CARE FOR TB PROPHYLAXIS AT BAYLOR CLINICAL CENTRE OF EXCELLENCE IN CONSTANTA (COE), ROMANIA**

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**Background:** TB Guard’s goal is to ensure timely access to TB prophylactic treatment (CSS) for people affected by HIV that are at high risk of contracting TB (TB-HIV-P). In the first year of implementation, the project aimed to ensure that at least 50% of the eligible high risk patients receive CSS.

**Description:** The program is implemented by two health professionals at a HIV clinic caring for about 750 patients/quarter. The cascade of care includes a 4 item self-reported symptom screening assessing patients’ TB knowledge level and informing patients about their risks to develop TB, initiating CSS for those at high risk (with CD4< 200, pregnant women, patients with exposure to TB, etc.). Finally, the program connects those with TB symptoms for diagnosis and curative treatment at the local referral centre.

**Lessons learned:** The TB-Guard program in the HIV clinic translates into practice the HIV-TB guideline recommendations. Every quarter, around 47% (362 patients) of those that access the COE accepted to complete the self-report. Another 35% (281 patients) were selected for TB evaluation through direct assignment (based on CD4 values and exposure risk). 13.25% (48 patients) responded with “yes” at a least one screening question and were further referred for medical evaluation. 92% (239 patients) were referred for consultation through direct selection by healthcare team. Finally, 197 unduplicated patients presented themselves for consultation, and 18 were initiated on CSS. During the year 2015 the COE was the only center in the region that enrolled patients on CSS (126 persons, i.e. 49% of the eligible TB-HIV-P with CD4< 200, 69% of eligible pregnant HIV infected women and 54% of children exposed to HIV aged 0-2 years old).

**Conclusions/Next steps:** The program managed to successfully initiate on CSS about 15% of the total active population during the year 2015, but had a broader educational impact since 53% of all patients were informed about TB. In the future, about 15% of the total active population during the year 2015, but had a broader educational impact since 53% of all patients were informed about TB.

**WEPEE556**

**INTEGRATION OF FAMILY PLANNING IN HIV SERVICES FOR SEX WORKERS LEADS TO REDUCTION OF ABORTIONS AMONG SEX WORKERS IN UGANDA**

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**Background:** Integration of Reproductive Health services in HIV programs for sex workers contributes to increased condom use and reduction in unwanted pregnancies among female sex workers. Despite this mutual dependence, HIV and reproductive health services in the well-child/immunisation setting in five clinics in KwaZulu-Natal.

**Methods:** Exit interviews were conducted with 123 mothers at T1 (September-October 2013) and 290 mothers at T2 (September-November 2014). Participants’ demographic characteristics were similar at both time points.

**Conclusions/Next steps:** Most mothers reported having a previous HIV test: 114/123 (92.7%) at T1; 289/290 (99.7%) at T2. Among mothers with a RTHB 96/113 (85.0%) had their most recent HIV status recorded in the RTHB at T1, this was significantly higher at T2 (281/287; 97.2%; P< 0.001). Of 76 mothers reporting themselves HIV negative at T1, seven (9.2%) were offered a HIV test at this visit versus 40/177 mothers at T2 (22.6%; p=0.047). However, mothers who actually had an HIV test on the day of the visit was not significantly different: 1/76 (1.3%) at T1 vs 20/177 (11.3%) at T2 (p=0.002).

**WEPEE557**

**INTEGRATION OF HIV CARE WITH WELL-CHILD SERVICES: IS THIS THE SOLUTION TO IMPROVING FOLLOW-UP CARE FOR HIV INFECTED MOTHERS AND THEIR INFANTS IN RESOURCE-LIMITED, HIGH HIV PREVALENCE SETTINGS?**

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**Background:** Integration of prevention of mother-to-child transmission (PMTCT) interventions with routine antenatal care has resulted in substantial reductions in perinatal HIV transmission in South Africa (SA). PMTCT guidelines now recommend lifelong antiretroviral therapy (ART) for all HIV positive pregnant women, creating a need for strategies to improve retention in care for these mothers and their babies post-delivery. We evaluated a multi-pronged, systems strengthening intervention to provide a comprehensive integrated package of maternal, child and HIV/PMTCT services in the well-child/immunisation setting in five clinics in KwaZulu-Natal.

**Methods:** Exit interviews and reviews of the Road-to-Health-Book (RTHB) were conducted with mothers of babies aged under one year attending for well child services to determine the services received at baseline (T1) and after completion of the one-year intervention period (T2).

**Conclusions/Next steps:** Although coverage of infant PCR testing was similar at both time points, provision of an integrated maternal and child health service in the well-child clinic resulted in significant improvements in coverage and uptake of maternal HIV interventions.
WEPEE559
HOW SATISFIED ARE CLIENTS WITH INTEGRATED SRH AND HIV SERVICES?
A CROSS-SECTIONAL STUDY IN BOTSWANA, 2015

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Background: There is a global consensus on integration of sexual and reproductive health (SRH) and HIV services. However, integration of SRH/HIV has not been widely implemented, and there is limited knowledge of client’s satisfaction with integrated SRH and HIV services. In Southern Africa, 7 countries piloted integration of SRHR and HIV between 2011 and 2015. We present data of client satisfaction collected through a survey in health facilities in Botswana.

Methods: A cross-sectional study was conducted with women and men who accessed SRH and HIV services in Botswana between April and September 2015. A sample of 225 clients and 22 service providers across 9 nine health facilities participated in the study. The questionnaire was comprised of SRH/HIV integrated services available, benefits and disadvantages of provision of SRH and HIV integrated services, and client satisfaction - confidentiality, privacy and trust. Data was captured in Microsoft excel, and imported into Epi Info version 7 for analysis. Results of descriptive analysis are presented.

Results: Over 80% were female and mean age 36 years (19-77 years). Over one-third (73%) preferred integrated SRH and HIV services; citing benefits on reduction on number of trips to health facility (57%), and an opportunity to access other services which were not primary reason for consultation (41%). Clients mentioned long waiting times (27%) and poor quality of service (10%) as disadvantages of SRH/HIV integration. Whereas; 89% of health service providers mentioned shortage of drugs and supplies and 83% an increase in workload. Over 80% of clients were completely satisfied with integrated SRH and HIV services.

Conclusions: Clients were satisfied with integrated SRH and HIV services. Integration provides multiple entry points for services, and reduces return visits to health facilities. However, integration needs well resources - human, and drugs and supplies. This study has implications for health systems strengthening, for scale-up of SRH and HIV programmes through integrated approach, in developing countries.

WEPEE561
WHERE ARE WE WITH ELIMINATION OF NEW HIV INFECTIONS AMONG CHILDREN?

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Background: Despite significant progress made, coverage of PMTCT interventions in some priority countries was still below that needed to reach the goal for elimination of new HIV infections among children. In some of the countries, many women are still not reached and, when reached, retention in care is poor. Overall, low performing countries are characterized by persistent regional disparities in geographic coverage of PMTCT services due to system constraints.

Methods: Country data from UNAIDS 2014 estimates and 2015 Global AIDS Response Progress Reporting were analysed over time to determine trends, unmet need and future forecasts intervention performance. In-country assessments and bottleneck analyses were conducted to supplement and corroborate national findings and determine geographic disparities within countries.

Results: In 2014, 73% of 3.5 million pregnant women living with HIV in low- and middle-income countries (LMICs) received the effective PMTCT ARVs compared to 77% in the 21 priority countries in SSA. At this rate of scale-up, however, the 90% PMTCT HIV treatment target by 2015 may be achieved in 2017. There were 220,000 new HIV infections among children in 2014 globally; nearly a 60% reduction since 2000, 74% reduction between 2000-2009 and 45% between 2009-2014. At this rate of decline, the 90% decline 2015 target may not be achieved until 2029. Between 2000 and 2014, an estimated 1.3 million new HIV infections were averted by PMTCT LMic's. Of the 220,000 new child HIV infections globally in 2014, 50% were in 6 countries (Nigeria, Kenya, India, Malawi, Uganda and South Africa). Since 2000 there has been a shift in the countries contributing to 50% of new infections, except for Nigeria. Bottle neck analyses conducted show that slow progress is associated with policy and systemic factors weak human resource capacity and policies that do not support task shifting, inadequate supervision of staff, poor quality of services, including laboratory capacity; weak referral and follow-up care systems, inadequate community engagement and supply chain constraints.

Conclusions: Despite the progress in PMTCT, many children continue to be infected. Addressing the remaining policy and systemic factors is needed to meet the new Fast Track global 90 90 90 2020 treatment to end AIDS among children.
CAPACITY BUILDING INITIATIVES

WEPEE562

CHANGES, OPPORTUNITIES AND STANDARDS, A RETROSPECTIVE REVIEW OF NOVEL PRACTICES IN HEALTH SYSTEMS INVESTMENTS. TASO UGANDA EXPERIENCE

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Background: Globally, there is a call for efficient investments in health care systems if the benefits of high yield impacts are to be achieved. Uganda, which is among the high HIV prevalent countries affected by the scourge of the HIV epidemic, has had PEPFAR support for HIV programs rationalized. TASO received a grant to strengthen government health systems to implement the six pillars of health system strengthening in 54 public health facilities but changes had to be made to realize opportunities for success.

Description: Key milestones had to be achieved in the areas of health financing, logistic chain supply and health workforce. TASO activated each health facility bank account with the in charge and the district health officer (DHO) as separate signatories. Funds disbursements required that requests are reviewed by the district sub accountant, TASO center accountant and finally by TASO headquarter financial team. TASO supported the recruitment of Human resources for health in three districts to fill vacant positions. A multi skilled TASO team seconded to this HSS project together with the district supervision teams conducted routine supervision support to each facility to assess performance on all program indicators to identify gaps and opportunities for improvement. TASO also facilitated Tororo Hub to support the lower health unit laboratories.

Lessons learned: In a year, over 114 staff were recruited. Over 36 Joint support supervisions conducted. TB screening increased from 50 % to 80%. Retention on ART also increased from 67% to 70%. Retention in care of HIV exposed infants improved from 32% to 72% and PITC at outpatients increased by 50%. Facility reporting improved from 60% to 95%. Drug stock outs and the need for buffers reduced significantly. The supported Hub achieved 3rd status from O and was ranked among the best performing Hubs in the country.

Conclusions/Next steps: To improve the health system in any country, health financing mechanisms with accountability, and sufficient logistical, mentorship and timely supervision are key to achieving the objectives of HSS. Any project improving health systems should utilize multidisciplinary teams in providing support supervision, and introduce financial mechanisms for easy access but with efficient accountability.

WEPEE564

IMPROVING AVAILABILITY OF ANTIRETROVIRALS THROUGH SUPPORTIVE SUPERVISION IN HEALTH FACILITIES IN SWAZILAND

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Background: Universal access to antiretroviral (ARV) therapy is one of the goals of the response to HIV and AIDS epidemic in Swaziland. By the end of September 2010, 64.1% of people with HIV or AIDS were actively on treatment in the country. To improve availability and support of HIV services decentralization activities, the USAID-funded SIAPS Program has supported the Swaziland Ministry of Health (MOH) in building capacity of health care workers (HCW) in ARV inventory and pharmaceutical services management.

Description: In 2012, SIAPS conducted a baseline assessment of 131 health facilities to assess pharmaceutical services. Based on the results, SIAPS assigned a technical advisor in each of the four regions to mentor HCWs on inventory and pharmaceutical management. Twelve annual supportive supervision reports from four regions were analyzed from September 2012 to September 2015 to review medicines availability.

Lessons learned: The average ARV availability in health facilities improved from 51% in 2012 to 92% in 2015. The percentage of facilities using appropriate tools for inventory management (stock cards) improved from 52% in 2012 to 100% in 2015. Timely and accurate monthly reporting and ordering improved from 55% in 2012 to 95% in 2015.

WEPEE563

INSTITUTIONALIZING HIV/AIDS, TB AND MALARIA IN-SERVICE TRAININGS: MSH NIGERIA EXPERIENCE

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Background: In-service training of health care workers plays an important role in improving the quality of HIV/AIDS services. In Nigeria, HIV/AIDS, TB and Malaria trainings have been largely donor-funded and directed at health care workers in supported facilities, covering a small fraction of the overall state health workforce. The planning, coordination, and implementation of these trainings happen with minimal state involvement and without a framework at the state ministry to ensure that these donor-funded trainings cut across all the state facilities. Hence, creating a need to institutionalize and sustain these in-service trainings through appropriate government agencies.

Description: USAID through the MSH-ProACT project developed a model to strengthen, standardize, and institutionalize in-service trainings across five supported states. Using a participatory approach that brought together professional health associations and State Ministry of Health; the Centers for Health Professionals (CHPCE) were established. The CHPCE is endorsed by 3 professional health councils to award Continuing Professional Development (CPD) credits. The CHPCE comprises a multi-disciplinary faculty of health personnel, who serve as state-based master trainers that provide integrated trainings on HIV/AIDS, TB and Malaria based on national guidelines.

Training needs assessments were conducted and findings used to develop and implement a series of calendared trainings for the state health workforce.

Lessons learned: Within one year of implementation, the CHCPE has provided trainings and awarded CPD points to health professionals across supported and non-supported facilities in the states which ensured that a larger percentage of the health workforce was reached. The multi-disciplinary approach employed encouraged ownership and participation by all the state professional associations. Awarding of nationally recognized CPD points served as motivation for health workers to attend the trainings especially for non-donor supported sites.

Conclusions/Next steps: The CHPCE approach provides a sustainable Government owned structure for institutionalizing robust in-service training of Health Workers. However, continued success of the approach will depend on funding provisions for the Centers and evaluation component should be built into all in-service training programs and budgets to evaluate their relevance, effectiveness, efficiency, sustainability.

WEPEE566

ORGANIZATIONAL DEVELOPMENT AS AN ENTRY POINT FOR EFFECTIVE COMMUNITY HIV PROGRAMMING: LESSONS FROM ZIMBABWE

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Background: SAFADIS implemented a 9-month (January-September 2015) institutional capacity building project for 2 Irish Aid Zimbabwe local partner organizations: FACT Chiredzi and Diocese of Mutare Community Care Programme (DOMCCP). The
main objective of the project was to: Provide institutional strengthening and technical capacity building for 2 local partners to deliver effectively on their mandates and report efficiently to Irish Aid Zimbabwe.

**Description:** Delivery of the project actions was guided by an organizational development framework that had five key components:

i) field-based partner capacity needs assessment;

ii) conducting a project inception meeting to get buy-in from the project partners and create a shared understanding of the organizational development process;

iii) participatory development of a capacity building framework unique to each partner’s capacity needs;

iv) delivery of multi-action capacity building actions; and

v) evaluation of the interventions.

Capacity building was done through a combination of skills building workshops and hands-on mentoring. Mentorship was provided face to face and through distance support.

**Lessons learned:** There were contributory and limiting factors that influenced achievement of project objectives. At DOMCCP a success factor was receptiveness of staff in embracing new changes introduced from the capacity building plan. FACT Chiredzi was experiencing low staff morale and policies that hadn’t been reviewed in a long time. Capacity building interventions helped address organizational challenges. Strength of the approach was the emphasis on competency building using both instructive training and follow-up mentorship; and participation of the Board, management and staff in the capacity building process. Success of capacity building is premised on the posture of learning in any organization. If only management is motivated to learn and the staff are not, then it will be difficult to translate capacity building into tangible results. At DOMCCP the positive posture of learning was evident in successful adoption of change interventions.

**Conclusions/Next steps:** Institutional capacity building is an effective entry point in removing operational and structural bottlenecks that hinder quality project implementation. The intervention has improved the quality of programmes for the 2 partners. SAMADS is internalizing the lessons learnt to scale up organizational development work in Zimbabwe.

**Background:** Strong communities, rights protection, and gender equality (CRG) are important components of response to HIV/TB epidemics. Establishment of Regional Civil Society and Community Support, Coordination and Communication Platforms is an initiative of Global Fund to fight ATM to support and strengthen civil society and community engagement at all levels of Global Fund processes. Regional Platforms were established in 6 regions all over the world.

**Description:** Supporting the Eastern Europe and Central Asia (EECA) Regional Platform was created through consortium of key partners: Alliance for Public Health, Eurasian Harm Reduction Network, and Eastern-Europe and Central-Asian Union of PHLA organizations. The main Technical Partners supporting and collaborating with Consortium include community networks Eurasian Network of People who Use Drugs, Sex Workers’ Rights Advocacy Network, Eurasian Coalition on Male Health, as well as TB organizations. The main Technical Partners supporting and collaborating with Consortium are institutionalizing the lessons learnt to scale up organizational capacity building interventions designed to improve the quality of programmes.

**Lessons learned:** On the regional level civil society cooperation covers important needs in resource savings through coordination on planning stage of regional projects related to CRG. This is also applicable for mid-term and final evaluations of such projects. What is more, every regional project has budgets for coordination, which also can be saved and reallocated with the help of such partnership.

**Conclusions/Next steps:** Development work in Zimbabwe was evident in successful adoption of change interventions. That was achieved through developed standard of treatment procedures and gender and human rights based HIV services based on the “one-window approach”. That was achieved through developed standard of treatment procedures and gender and human rights based HIV services based on the “one-window approach”. That was achieved through developed standard of treatment procedures and gender and human rights based HIV services based on the “one-window approach”. That was achieved through developed standard of treatment procedures and gender and human rights based HIV services based on the “one-window approach”.

**Background:** HIV/AIDS epidemic has, over the past decade, evolved into a more complex one necessitating high quality of care, treatment and support to People Living with HIV (PLHIV). Complex treatment schedules and patient management require constant training and upgrading of skills among providers. Distance Learning is an innovative strategy to train and bridge the skills and knowledge gap of health care professionals (HCP).

**Description:** The Centers for Disease Control and Prevention (CDC) and the International Training and Education Center for Health (I-TECH), initiated the HIV/AIDS National Distance Learning Seminar Series (NDLS) in September 2010 to support to National AIDS Control Organisation (NACO). The series is aimed at HCP treating HIV/AIDS in Anti-Retroviral Treatment (ART) centers and other government and private institutions. Experts from across the country deal with a variety of topics on advanced care, comprehensive management, and treatment via synchronous live sessions across several states and districts in India using Adobe Connect software. These bi-monthly 60-minute sessions are conducted in English. Participant feedback is collected after each session through e-poll. Access to archived sessions via streaming video link is also made available. I-TECH India along with NACO manages the entire process including identifying current and relevant topics, speakers, development of slides, and technical support to deliver the sessions.

**Lessons learned:** From September 2010 to December 2015, 112 NDLS sessions were attended by 17,423 HCP from throughout the country. On average, 830 HCP, most from 395 ART centres, participate in each session. Over 90% of the participants continue to find the sessions and the content ‘useful’, when asked over e-poll. The sessions were also watched through 2000 logins in offline mode, reflecting that the distance seminars were perceived as useful by the end users.

**Conclusions/Next steps:** NDLS allows both to continue to work at their health facilities while they enhance their competencies, though it cannot be a replacement for conventional trainings. Distance learning offers an attractive mechanism for ongoing program and clinical mentoring while alleviating expenditures on travel, accommodation and per diem, thereby reducing the burden of growing expenses on health programs.
Lessons learned: The pilot schemes have shown improved diagnostic of HIV, TB and STI, guaranteed referral to AIDS clinic for engagement in treatment, and increased confidence of PWID to DDT. Over 2300 clients were reached with comprehensive, gender responsive HIV prevention and treatment services, which is 3 times higher than before in all three pilot localities. Thus, male clients reached by services were: Kiev-388, Poltava-888, and Kharkiv - 479 people. The number of women who use drugs and reached by services were S53.

Conclusions/Next steps: Sharing this experience over the country will allow to fast-track the comprehensive, integrated and sustainable response to HIV among people who inject drugs in Ukraine.

WEPEE569

EMPOWERING LAY COUNSELORS WITH TECHNOLOGY: MASIVUKENI, A STANDARDIZED MULTIMEDIA COUNSELING SUPPORT TOOL TO DELIVER ART COUNSELING

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Background: South Africa (SA) has 6.3 million people living with HIV, and 4.68 million eligible for antiretroviral treatment (ART). Under current SA ART guidelines all patients with a CD4 count ≤500 are initiated on ART, with the expectation that it will soon be extended to all HIV-positive people. There is a gap between HIV-related treatment needs and health staff resources. Task shifting, delegating tasks to less specialized health care workers, has been used successfully to bridge this gap in many low-to-middle-income countries, with lay counselors successfully administering ART counseling. There are however challenges, including varying education levels and skills of counselors, non-standard implementation of counseling, and variability in clinic support and capacity for counselor supervision.

Description: Masivukeni is an easy-to-use, multimedia laptop-based platform to engage counselors with patients in the delivery of ART adherence counseling. Masivukeni provides counselors with scaffolding to deliver standardized ART counseling. Tool use training is brief and previous computer experience is not a prerequisite. The platform ensures consistent administration of counseling curriculum and that all critical health information and messaging is delivered. Masivukeni engages counselors and patients through interactive tasks and videos that address complex biological processes (e.g., how CD4 count and viral load affect health). Masivukeni’s back-end design captures the length of time counselors spent on each activity, and which sessions and activities were completed - allowing for continuous quality assurance supervision.

Lessons learned: Through Masivukeni counselor interviews and a focus group, we learned that counselors found the platform's scaffolding helpful (i.e., keeping them on track with the curriculum), and increased their confidence in delivering complex health information. The counselors also reported that using the videos and interactive tasks enhanced their relationships with patients. Because the tool can easily retrieve data on previous counseling sessions when a patient returns to the clinic for further treatment, counselors reported that this fostered improved patient-counselor relationships. Importantly, counselors felt Masivukeni empowered them to provide high quality counseling to patients. Counselors reported that session length could be shortened.

Conclusions/Next steps: The next anticipated step is implementation and dissemination in partnership with clinics across health districts measuring counselor performance, patient engagement, and patient health outcomes.

WEPEE570

BUILDING DISTRICT-LEVEL CAPACITY FOR HIV SURVEILLANCE AND LOCALIZATION OF HIV PREVENTION PROGRAMS: A CASE OF PLACE UGANDA

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Background: To improve prevention interventions, a better understanding of the determinants of HIV infection is required. Despite this, local governments often lack local evidence to tailor their HIV prevention efforts to the local drivers and key populations. The purpose of Priority for Local AIDS Control Efforts (PLACE) Uganda was to build district level capacity for HIV surveillance and use of local evidence for HIV prevention planning.

Description: Using the Priority for Local AIDS Control Efforts (PLACE) research methodology http://www.cpc.unc.edu/measure/resources/publications/ms-05-13 , district-based teams were trained in conducting PLACE rapid assessments as a means of building their capacity to generate local data to inform HIV prevention programming. The training and district surveys were conducted in 30 districts of Uganda between 2013 and 2014 and the data generated was used to develop district HIV prevention plans. The process also involved a systematic engagement of national and district level HIV/AIDS stakeholders. The engagement processes were hypothesized to democratize participation in learning about HIV prevention gaps and strengthen collaborative learning, generate a common vision for district HIV prevention and to strengthen distributed actions for district HIV program implementation.

Lessons learned: Capacity building and PLACE assessments generate information on priority groups and social venues for prevention interventions within districts. On the other hand, stakeholder engagement meetings were useful avenues for broadening the discussions about the prevailing HIV prevention gaps and utilization of findings for HIV prevention planning. Although there was vast participation and collaboration among district actors, the challenge remains for districts to put in use the capacity (trained teams) to routinely HIV prevention planning. The decision space for district-level actors is relatively small due to less flexible financial resources.

Conclusions/Next steps: PLACE is a rapid, cost-effective methodology well suited to empower lower level governments with capacity to generate contextually relevant HIV prevention indicators - often not available to support programming and monitoring of district-level programs.
WEPEE572
INTEGRATION OF HIV PREVENTION AND SEXUAL REPRODUCTIVE HEALTH SERVICES USING A QUALITY IMPROVEMENT INTERVENTION: EXPERIENCES FROM RURAL KWAZULU-NATAL, SOUTH AFRICA

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Background: As HIV prevention methods are being developed, there is an urgent need to strengthen sexual and reproductive health (SRH) services at primary health-care (PHC) clinics to facilitate integration of pre-exposure prophylaxis (PrEP). Description: Between September 2012 and February 2014 CAPRISA collaborated with the Mafakatini PHC clinic in rural KwaZulu-Natal, South Africa to strengthen SRH services and integrate tenofovir gel as PrEP for CAPRISA 008 participants, using a quality improvement model. Process mapping was undertaken with clinic staff. Visit flow systems and documentation were reviewed allowing gaps and system weaknesses to be identified. Client demographic profiles, services accessed, adequacy of provider skills and data collection/analysis were also reviewed. Clinic cards were used to document client arrival and departure times. The following priority goals were identified: 1) reduce waiting times; 2) increase number of clients accessing SRH services, and 3) every nurse to perform at least one Pap smear daily. Nurses were trained to provide a comprehensive package of services including: vital sign assessment, pregnancy testing, Pap smears, SRH method-mix discussion and HIV counselling and testing. Targets were set in accordance with Department of Health guidelines and progress was monitored monthly.

Lessons learned: Outcomes of the programme include:

- Reduction in SRH client waiting time from >3 hours to < 2 hours.
- Increase in average number of SRH services per month.
- Increase in Pap smears completed from a median of 5 to 35 per month.
- Increase in HIV test uptake from an average of 50% to 98% of eligible women, and maintenance above 88% per month.
- Provision of PrEP as part of SRH services was feasible and acceptable, with no negative impact on the provision of SRH services.

Conclusions/Next steps: Through the quality improvement model, the Mafakatini PHC clinic was able to improve documentation, reduce waiting times, expand SRH services and increase uptake of HIV counseling and testing. Scaling up SRH services at the PHC clinics in South Africa allows for integrated service delivery and creates an environment for introducing a variety of multi-purpose HIV-prevention options for women.

WEPEE574
COLLABORATIVE PROCEDURE BETWEEN JANSSSEN, WHO, EMA AND NATIONAL MEDICINES REGULATORY AUTHORITIES (NMRAs) FOR ACCELERATED REGISTRATION: EXPERIENCE FROM PILOT OF HIV DRUG IN AFRICA

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Background: Currently in Africa, it can take from six months to more than five years to register new medicines. To improve access to needed medicines, WHO together with the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) and interested NMRAs in Africa has put in place a pilot procedure by which national registration is targeted within 3 months of application. INTELENCE, an HIV medicine from Janssen, was the first drug selected to be registered by this pilot procedure. This new procedure is an important development in the effort to accelerate access to medicines in Africa.

Methods: The pilot procedure is applicable to medicines approved by a Stringent Regulatory Authority (SRA), such as the European Medicines Agency (EMA). Full EMA assessment and site inspection reports are shared with the NMRAs. NMRAs benefit from EMA regulatory expertise and perform an accelerated review based on an adapted dossier and strive to provide approval within 3 months. WHO’s role is to facilitate the process between all parties.

Results: 11 African countries participated in the first pilot with the pediatric INTELENCE 25 mg tablet. Within a total time of 3-11 months, 8 countries received regulatory approval, which included time to respond to NMRAs questions. This result for the pilot is highly encouraging; with further refinement of the procedure, shorter timelines are targeted.

Factors that facilitated swifter reviews and approvals include: adopting a common dossier for all countries, one aligned set of health authorities questions; reliance on EMA assessment and site inspection reports, managing dossier reviews parallel with other processes. All these helped reducing the workload and resources needed from both NMRAs involved and Janssen. The generated experience was useful to streamline the next rounds of the pilot.

Conclusions: The success of this pilot demonstrates that accelerated registration procedures in Africa are possible. Thanks to this collaborative approach and effective information sharing between all involved parties, this procedure may become a useful tool to expedite access to SRA approved medicines for patients in need.

WEPEE575
IMPLEMENTATION OF HIV AND AIDS PROGRAMMES IN THE HIGHER EDUCATION AND TRAINING SECTOR IN SOUTH AFRICA: BEST PRACTICES REFLECTED IN USING THE GLOBAL FUND GRANT SYSTEM

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Background: The Higher Education and Training HIV and AIDS (HEAIDS) is the flagship HIV prevention programme of South Africa’s National Department of Higher Education and Training (DHET). In 2013, HEAIDS was awarded a Global Fund Grant to strengthen the public universities2 under DHET and general health and wellness services. Description: This two-year grant was awarded to 23 Higher Education Institutions (HEIs) across South Africa. There were 6 priority areas which were key to granting the awards. These included universities ability to implement these programmes: HIV Counselling and Testing (HCT), Women Health Empowerment, Men Health Empowerment, Alcohol and Drug Abuse Prevention, Stigma and Discrimination & capacity building for HEIs. Lessons learned: Of the 23 HEIs awarded the grant, 15 had successfully managed the grant in compliance with the Global Fund performance based requirements and the HEAIDS grant management systems. Successful management resulted in a 27% increase in the uptake of HIV testing. HEIs were able to provide testing for HIV and screening for STIs and TB, which saw an increase (63%) in the number of HIV campaigns. The sector had an opportunity to provide comprehensive package of health and wellness services for combination prevention, management, care and support. Increased partnerships with key stakeholders bringing services to the door steps of students and. A strengthened collaboration between the different, implementing partners and health stakeholders. Further to the successes, challenges were experienced such as late donor reporting processes and lack of synergy between programmatic and financial management systems. Conclusions/Next steps: Stakeholder buy-in and support for grant and health care programmes by university leadership & stakeholders is vital to ensure that the grant holders perform well with their given mandate. The grants played a vital role in complementing existing HIV prevention, management, care and support programmes. Further resource mobilisation and allocation to the sector is supported.
and perceived competence gaps of HF coordinators and regional managers.

Lessons learned: Six most-prescribed ARVs were used to monitor the percentage of HF Experiencing Stock-Outs (HFESO). The decrease from 100% HFESO in January to 53% in July 2014 could be attributed to central stock availability improvements. By December 2014, although the overall percentage HFESO fell to 41%, facility stock-outs actually increased for four tracer ARVs. After the intervention in 2015, health facility stock-outs of all tracer ARVs decreased and HFESO dropped substantially to 18% by September 2015. This achievement was in part attributed to adapting the technical assistance provided by SIAPS seconded staff, to the different backgrounds and perceived competence gaps of HF coordinators and regional managers.

Conclusions/Next steps: In Cameroon, in addition to training and supervision, fostering management capacities of HF local authorities is associated with reductions of HF ARVs stock-outs. These results can inform government strategy to plan sufficient allocation of human and financial resources to expand similar interventions in the rest of the country.

WEPEE577
BRIDGING THE GAP IN IMPLEMENTATION SCIENCE: EVALUATING A CAPACITY BUILDING PROGRAM IN DATA MANAGEMENT, DISSEMINATION AND UTILIZATION AMONG HEALTH CARE PROVIDERS IN EAST AFRICA

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Background: Building capacity in implementation science within health programs depends on several variables, including training in the theory and practice of basic research methods, epidemiology and statistical skills, continuing education experiences such as self-study workshops, and high self-efficacy toward applying lessons learned to completing an abstract or a manuscript. Using these concepts, the purpose of our study was to determine the impact of training on building program capacity and self-efficacy on data management, analysis and dissemination among Health Care Professionals providing technical assistance to over 200 health facilities in Kenya and Tanzania.

Description: The specific questions were to determine if 1) the training changed participants’ self-efficacy in regard to data analysis and understanding concepts and 2) if participants applied skills taught during the workshop for scientific dissemination. The training was conducted in three staggered sessions 1) concept development and manuscript outline 2) data analysis - basic concepts in research 3) manuscript writing and finalisation.

Lessons learned: Two months prior to the training (N=86) were emailed a pre-test for planning the content of the workshop. Twenty-four questions were asked using a Likert-type response. Questions included knowledge on data concepts eg “how confident are you in ( )”. Two months after the training a post-test survey was emailed to all participants (N=84). Qualitative data was also collected as part of the post-test survey.

Conclusions/Next steps: While increasing self-efficacy is a necessary first step in developing skills educators should engage in continuing education for sustainable dissemination practices. There is an urgent need to determine the current infrastructure to promote scientific dissemination. This will assist countries to produce better evidence to support their programs, policies and overall health programs.

WEPEE576
IMPROVING ODDS OF SUCCESS: USING A COMMUNITY CAPACITY CHECKLIST TO IDENTIFY COMMUNITY GROUPS MOST LIKELY TO BENEFIT FROM CAPACITY BUILDING SUPPORT

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Background: ‘Building capacity’ is an overused jargon in development, yet its purpose is essential to ensure resources are optimised. However, not all groups benefit equally from capacity building support; through the PACF capacity building programme we have identified six characteristics which contribute to strong likelihood of capacity building programme success: deep understanding of local context, willingness to learn (including accepting external criticism and direction), focused programming objectives, accountable and communicative, sufficient organisational capacity to receive technical assistance and local credibility (either intrinsic or earned) to build relationships at a local level with health staff and district officials.

Description: The PACF review proposals based on the merit of each proposal. Following three rounds of internal and board review, CB0s are selected for funding. Small grants with grants under £25,000 per year are automatically considered for capacity building support. A review of the partners within the technical assistance programme over 5 years, has identified over 120 community groups that were eligible for capacity building support in that time with 80 receiving technical assistance.

Lessons learned: PACF feedback from TP providers, in addition to the knowledge developed from management of grantee relationships have identified six needs in capacity community building: 1. Deep understanding of local context which gives each group a comparative advantage. 2. Willingness to learn and particularly the ability to take outside direction based on external best practice. 3. The ability and willingness to focus programming objectives and not try to address every issue in the community 4. Accountable and communicative in meeting requirements of funding/capacity building. 5. Sufficient organisational capacity to apply technical assistance in operations and (6) local credibility (either intrinsic or earned) to build relationships at a local level with health staff and district officials.

Conclusions/Next steps: On the basis of the 6 characteristics for capacity building success, the PACF has developed a checklist for funders and capacity builders to identify organisations that will benefit from capacity building support.
WEPEE579
GOOD PARTICIPATORY PRACTICE APPLICATION: EXPERIENCE OF STAKEHOLDER ENGAGEMENT IN PROTOCOL DEVELOPMENT AT KAVI INSTITUTE OF CLINICAL RESEARCH
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Background: Good Participatory Practice (GPP) implementation and Stakeholder engagement is considered key in HIV vaccine research. In preparation for future Phase 3 HIV Vaccine clinical trials, our project conducted a Simulated Vaccine Efficacy Trial to assess the ability to recruit and retain Key Populations in an actual Vaccine study.

Methods: Study participants were selected from the key population’s Community Advisory Board (CAB), National LGBT Research Advisory Committee (G1O) peer leaders/educators and staffs to review the protocol for the aforementioned study on 1st and 2nd September 2015. Issues discussed varied from the recruitment and retention strategies, referrals, volunteer protection to end of study.

Results: The stakeholders raised issues about health care providers’ attitudes which they had experienced in government-run clinics e.g. discrimination and homophobia and feared this would also occur at the study site. There were also study staffs who had never worked with key populations before and they expressed the need for sensitization on how to handle them. Recommendations made included; sensitization for team members and assurance for volunteers’ safety and unconditional positive regard. Team members were sensitized and had an exchange program to familiarize themselves with key populations and security training was conducted with more recommendations arising which are in the process of implementation.

Conclusions: Having implemented the stakeholders’ recommendations, the study commenced smoothly. This was an eye opener to the study team that stakeholders can give insight to potential issues which need to be nabbed in the bud before a trial commences.

WEPEE580
PARTNERING TO FILL BIOMEDICAL ENGINEER AND TECHNICIAN HUMAN RESOURCE GAPS IN ETHIOPIA: PEPFAR’S FIRST BIOMEDICAL TECHNOLOGY TRAINING PROGRAM IN SUB-SAHRAN AFRICA
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Background: Current estimates indicate 37-48% of hematology, CD4, and microbiology lab machines in Ethiopia are not working at any given time. A large proportion of other integral biomedical equipment lies idle in healthcare facilities due to the absence of trained biomedical equipment technicians and engineers. In May 2015, Tegbare Polytechnic College conducted an assessment of medical equipment and equipment workshops at five Ethiopian hospitals. It revealed that 14-28% of equipment at these hospitals was not functioning at the time of the survey; workshops conducted limited preventative maintenance; and staff did not fully understand quality improvement practices.

Description: To address the critical shortage of trained biomedical engineers and technicians, the American International Health Alliance launched a partnership between Texas Children’s Hospital and Rice University in the United States and Jimma University and Tegbare-Id Polytechnic College in 2012. Partners aimed to rapidly train and deploy highly-skilled biomedical engineers and technicians and provide ongoing in-service training for practicing biomedical technology professionals. Ultimately, the partnership’s goal is to enhance HIV care and treatment services by decreasing the number of non-working lab machines and other critical HIV-related biomedical equipment. This partnership was the first PEPFAR-supported project to address biomedical technology in sub-Saharan Africa.

Lessons learned: Jimma University has graduated 181 biomedical engineers with 91% of them employed at Ethiopian health facilities. Tegbare-Id has graduated 132 biomedical technicians, with 95% similarly employed across the country. Partners conduct an annual survey to determine graduate skill gaps and have thus far provided training to fill said gaps for 181 BME graduates and 35 faculty members. Partners adapted the curricula over time, shifting from a more theoretical approach to problem-based learning. Spain’s Turner prepares graduates to perform required tasks. Faculty in-service training and providing skills laboratories have helped partners better integrate graduates into the healthcare system.

Conclusions/Next steps: Partners plan to enhance their advocacy to ensure graduates are fully integrated into the healthcare system. As focus shifts toward defining roles of biomedical engineers and technicians in preventative maintenance and repair, their integration will be essential to the long-term sustainability of the training program and provision of quality HIV-related services.
WEPEE582 LEVERAGING ONLINE CONTINUING EDUCATION TRAININGS TO IMPROVE NURSING AND MIDWIFERY HIV CARE DELIVERY IN AFRICA

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Background: The East, Central and Southern Africa College of Nursing (ECSACON) has been collaborating with the Alfa Bora Consortium and the African Health Profession Regulatory Collaborative for Nurses and Midwives (ARC) to address the identified need for increased access to continuing and professional development (CPD) trainings for nurses and midwives in sub-Saharan Africa. With the support of ARC, 8 countries have developed national frameworks and requirements for CPD trainings by nurses and midwives in the last five years alone. To address this training gap an online CPD library was developed and launched to support national re-licensure requirements and to increase access to timely trainings for the over 300,000 nurses and midwives in the region.

Description: In a previous study we analyze a survey of nursing and midwifery leaders from 17 countries, and HIV topics were identified for inclusion into the CPD library. Modules were reviewed by experts in the region, approved and then added to the website. We saw a certificate of completion that can be presented for re-licensure purposes to nursing councils with the support of 15 nursing registrars of east, central and southern African nations. A monitoring and evaluation framework was incorporated into this library to track barriers and usage patterns of each training module that includes Google Analytics and online surveys of user satisfaction. This presentation will provide a snapshot of the CPD library utilization by nurses and midwives since the website launch.

Conclusions/Next steps: Additional HIV modules will need to be added to the CPD library in order to support the over 300,000 nurses in the ECSA region. Sustainable funding will go a long way in ensuring continued use of this library and uptake of the most current information on HIV care.

WEPEE583 REMOVAL OF USER FEES IMPROVED ACCESS TO QUALITY MATERNITY CARE AND DECREASED MATERNAL AND NEONATAL MORTALITY IN A DISTRICT HOSPITAL, LESOTHO

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Background: Lesotho has one of the highest maternal mortality rates in the world due to HIV and poor access to skilled maternal health services. Hospital fees for delivery cost represent a major barrier to maternal health service utilization. This study aims to examine the patterns of obstetric services following introduction of Free Maternity Care (FMC) in a district hospital in Lesotho, a setting where up to 60% of maternal deaths are associated with HIV.

Description: A before and after study of the utilization of delivery services from July 2012 to December 2013 (pre-FMC) compared with utilization during the period January 2014 to June 2015 (post FMC introduction). Information on baseline characteristics, deliveries, obstetric outcomes and referrals was collected from maternity registers. Proportions and stillbirth, maternal and neonatal mortality rates are compared before and after introduction of FMC.

Lessons learned: A total of 3782 women delivered during the study period, of whom 684 (18%) were less than 19 years old. HIV prevalence was 23.7%. After the introduction of FMC, the number of hospital deliveries increased by 55% (from 1484 to 2298). Referrals from primary care clinics doubled (from 38 to 79) and referrals from secondary to tertiary hospital increased 5-fold (from 5 to 27). Maternal mortality ratios, neonatal death rates and stillbirth rates dropped respectively from 146 to 89/100,000, 5.1 to 1.3/100,000 and 26 to 19/100,000 live births.

Conclusions/Next steps: Introduction of Free Maternity Care resulted in a 55% increase in hospital based deliveries, as well as increases in referral rates and a drop in maternal, neonatal and stillbirth rates. Hospital fees for maternal care in Lesotho are a barrier to accessing skilled birth attendants and should be urgently removed.

WEPEE584 HOW DOES PATIENT MOBILITY, INCLUDING MIGRATION AND MEDICAL TRAVEL INFLUENCE HIV TREATMENT AND CARE?

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Background: While levels of patient mobility, including medical travel and migra-
tion are increasing, little is known about how mobility affects access to services and health outcomes of mobile patients. Findings presented are from a larger study which focused on health and health systems effects of medical travel in South Africa.

Methods: Data collection took place in 2015 from six clinic facilities based in peri-
urban and rural areas. A facility questionnaire (staff workload, essential services, pathways of care, referral and integration, adherence management and challenges) was administered to a clinic designee. Health outcomes for 2014 were accessed from the department of health’s Electronic Tuberculosis Register (ETR) and District Health Integration Services (DHIS) systems. In-depth interviews were conducted with 27 descriptive statistics and themain analysis were undertaken.

Results: While data varied between settings, trends in access to care and overall indicators of health systems performance were similar between facilities that had high volume of nationals versus non-nationals. However, clinic managers reported varied pathways of care for HIV treatment in nationals and non-nationals. From their perspective, lower adherence in nationals was due to work responsibilities, late arrival for clinic appointments, delayed start or completion of treatment and increased time spent at the clinic caused by staff shortages. In contrast they reported that while non-nationals appeared lost to follow-up, this was often due to them moving between facilities in search for ‘better’ or more easily accessible treatment, or other external factors. Concerns relating to HIV treatment in this context were not about defaulting or non-adherence rather discontinuation of medical records with lack of documentation on medication taken, raising the prospect of resistance. Other concerns included lack of continuous monitoring and related inability to de-
tect treatment failure.

Conclusions: Adherence to treatment is a challenge for facilities with low and high volumes of migrants. Mobility of patients, as medical travellers and internal or cross-border migrants affects HIV treatment adherence and monitoring of patients on antiretroviral treatment. Given high levels of mobility in many HIV endemic set-
tings, such as South Africa, this should be considered in strategies and policies aim-
ing to ensure treatment access for patients.
WEPEE586
IMPROVING ACCOUNTABILITY IN ORDER TO MEET THE TARGETS IN THE HIV PROGRAM: LESSONS FOR SUSTAINED RESULTS FROM DISTRICT LEVEL SCALE UP OF QUALITY IMPROVEMENT METHODS

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Background: South Africa is committed to achieving the SDG goal for health and for improving outcomes for women, children of all ages. This requires that evidence-based recommendations be translated into practice at the facility and community levels. The 3 feet approach applies a bottom-up methodology based on the view that the totality of individuals that are accountable for their actions serves to create accountability at a sub-district, district, and provincial level. Description: Since August 2014, the Three Feet approach has applied the principles of quality improvement (QI) in the Nelson Mandela Bay Health District. The use of tools such as facility level data dashboards, action dashboards, and the 3x4 matrix bottleneck analysis tool have assisted healthcare workers to know their targets, track their performance, and study the effectivity of actions. This has promoted accountability for continuous quality improvement in poorly performing indicators. Examples of district level results between Aug 2014 and Oct 2015: Male Condom distribution has increased from 13.6 to 39.7 condoms per male. ANC client retested for HIV has increased from 54.6% to 99.5%

Lessons learned: QI processes may have a limited term impact unless supportive mechanisms that create the capacity for accountability are also in place. Such mechanisms include:

- Providing an understanding how small activities contribute to the bigger goal of saving lives
- Establishing clear internal feedback mechanisms whereby HWCs can gauge their own performance. This is critical for the intrinsic motivation of an employee. A lack of feedback to those with the greatest influence on results does not foster accountability and results in data reporting for compliance sake.
- Clarifying the linkages and responsibilities between accountable parties i.e. “who is accountable to whom?” and “Who holds who accountable, and by what mechanisms?”
- Involving all relevant facility staff in QI decision-making processes
- Acknowledging success as opposed to highlighting poor performance to establish a shared value of continuous learning and improvement.

Conclusions/Next steps: Sustained improvements in performance will not be achieved without supportive mechanisms that promote accountability. The HIV programme is an effective entry point to influence results across the continuum of care for women and children.

WEPEE588
PROGRESS IN IMPLEMENTING AN AMBITIOUS STATE-WIDE HIV STRATEGY TO END THE HIV EPIDEMIC IN NEW SOUTH WALES, AUSTRALIA, BY 2020

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Background: Australia's most populous state, NSW, has an estimated 11,560 people living with HIV and an epidemic largely concentrated among gay men. Rates of new HIV diagnoses are relatively stable at around 350 new infections annually. The NSW Government released a new HIV Strategy in 2012 in response to evidence that early ART confers significant individual and public health benefits. The strategy set an ambitious goal of virtually ending HIV transmission in NSW by 2020.

Description: Core elements of the Strategy include mobilization of affected communities and the health sector and targeted funding to high impact programs. A highly visible “Ending HIV” theme has been utilized to generate awareness of the Strategy’s HIV prevention, testing and treatment targets. Rapid HIV testing is available in 15 public clinics, 4 community sites and 7 “pop-up” sites, with clients offered concurrent STI screening. An HIV Support Program assists clinicians with newly diagnosed patients ensuring linkage to care and encouraging early ART uptake. Enhanced data collection systems monitor progress in real time. Strategy evaluation is through a joint project of the NSW Ministry of Health and Kirby Institute.
Lessons learned: Newly diagnosed HIV infections were 20% lower in Jan-Sep 2015 compared to the same period in 2012. HIV testing rates increased by 30% over this period. 90% people diagnosed with HIV and attending public sexual health clinics were on ART (estimated at 5500 in 2013 and increasing to over 9200 in 2015). A 300 person PreP demonstration project is fully enrolled with a PreP program for 3,700 people now also underway. Community mobilisation has been effective, with community awareness of the health and prevention benefits of early ART increasing from 74% in 2013 to 93% in 2015. The virtual elimination of HIV transmission among people who inject drugs and sex workers and from mother-to-child is being sustained.

Conclusions/Next steps: NSW has made significant progress towards ending the HIV epidemic in NSW by 2020. This is being achieved through a partnership approach to maximise HIV testing, promote condoms, encourage immediate ART uptake, scale up PreP access, enhance safe injecting and harm reduction, and maintain linkage to care.

WEPEE589
AN EVALUATION OF THE EARLY IMPLEMENTATION OF OPTION B+ IN HEALTH FACILITIES OF ZIMBABWE IN 2014

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Background: Following the 2013 consolidated ART guidelines by World Health Organization (WHO) which included initiation of triple lifelong ARVs for HIV positive pregnant and lactating women regardless of CD4 count or clinical status, Zimbabwe adopted these guidelines amid concern to adherence to treatment. Implementation of Option B+ had been in progress for 12 months, and it was important to evaluate the early phase of implementation as articulated in the Option B+ transition plan.

Methods: A rapid assessment using a cross sectional design was used. Method mix approach (quantitative and qualitative) was used. Participants included key infor mants health care providers, Option B+ users and their partners as well as ordinary members of communities surrounding health facilities. Purposive and random was used to select provinces, districts and health facilities to participate in the assessment. Mutare and Masvingo Provinces were purposively selected as they had operational research/learning sites. The urban provinces of Harare and Bulawayo were also purposively selected in order to include central hospitals, local authority clinics as well as some private facilities. A total of 41 health facilities representing all levels of the healthcare system were selected.

Results: Number of sites implementing option B+ increased from 296 sites in 2013 to 1457 by September 2014 while there were 913 ART sites accredited for ART initiation for the general public by the same time. There was a significant increase in the number of infants and children initiated on ART in the first half of 2014 compared to the same period in 2013. Stock outs of ARVs occurred due to high demand. The virtual elimination for the general public by the same time. There was a significant increase in the number of infants and children initiated on ART in the first half of 2014 compared to the same period in 2013. Stock outs of ARVs occurred due to high demand.

Conclusions: A key recommendation is the operationalization of the joint ART MNCH - Child survival working group and decentralization of viral load testing as defaulters was strengthened. Village health workers were an important resource for tracking of patients and their relatives.

WEPEE590
USING DATA QUALITY ASSESSMENT AS A STRATEGY TO STRENGTHEN M&E SYSTEM AND FACILITATE DATA USE: LESSONS FROM TANZANIA

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Background: In 2015, WHO released a consolidated strategic information guidelines for HIV in the health sector. From the guideline, it is advocated to do Data Quality Assessments (DQA) as a routine activity. The guidance gives conduct to conduct Data Quality Reviews for evidence decision processes. In TUNAJALL, a comprehensive WHO project funded through USAID which supports M&E in 5 regions in Tanzania, DQA was conducted to enhance data quality, assess data quality as a means to receive information on strengths and weaknesses of recording and reporting systems in use. We assessed quality of data from Morogoro region for HIV Care services including PMTCT. The assessment was conducted in collaboration with regional and council health management teams.

Description: TUNAJALL conducted DQA in Morogoro region for 11 facilities using national data quality management tools. The exercise assessed reporting performance, data verification and management capacities. Indicators reported at headquarters office were counterchecked at regional office and health facilities. At the facility primary sources were used to conduct manual counting (spot and cross checking across tools) of variables that produce indicators for reporting in cards, registers and archived reports.

Lessons learned: The assessment showed spectrum of findings, with document review completeness, timely reporting and missing data fields were fairly good. Completeness (67%-100%), Timely reporting (100%), missing data fields (18%-72%). Verification exercise for indicators assessed showed verification factors from 0% to 264% demonstrating that under-reporting and over-reporting are all occurring in facilities. The regional and central teams learnt of gaps and strength of facilities they supervise and realized the need to have DQAs budgeted for in the comprehensive health plans.

Conclusions/Next steps: Improvement in M&E systems through DQA is a promising approach as gaps and strengths are immediately realized. Corrective measures are key for patient and program monitoring of the health system. The regional and council teams inclusion to facilitate ownership and accountability is emphasized.

WEPEE591
ORGANIZATIONAL ASPECTS AND THE ADHERENCE TO PI-BASED 2ND LINE TREATMENT IN CAMBODIA: ADHERENCE IS NOT ONLY A QUESTION OF INDIVIDUAL BEHAVIOUR (NCHADS/ANRS12276 PILOT STUDY)

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Background: As a result of the international financial crisis of the last years, HIV care services of developing countries tend to reorganize their activities to costs. This may have an impact not only in the capacity of facilities to provide care, but also on the adherence and the living conditions of PLWH. We aimed to investigate whether adherence to antiretroviral treatment (ART) is explained not only by individual factors, but also by the hospitals’ characteristics among a sample of PLWH under IP-based regimen in Cambodian care services.

Methods: NCHADS/ANRS 2PICAM study has been conducted between February 2013 and April 2014. Data was collected for 1316 PLWH attending 7 services in Phnom-Penb and Cambodian provinces. Adherence was assessed in the questionnaire and a variable indicating whether adherence to ART is low/interrupted (=1) or high (=0). Care services and individual characteristics were included in a Two-level logistic model to investigate their influence on adherence to ART.

Results: Among participants 17.1% were low adherent or had interrupted their ART, while 82.9% were highly adherent. Care services out of Phnom-Pen (OR:5.83 95%(1.98-17.17)), hospitals with large caseloads (>2393 patients) (OR: 3.68 95%(1.5-13.54)) are structural factors that increase the probability of patients to decrease or interrupt their ART uptake. However, patients in care services with important number of medical doctors (OR: 0.79 95%(0.70-0.90)), assistant pharmacists (OR:0.62 95%(0.39-0.99)), and psychologist counselors (OR:0.18 95%(0.05-0.65)) are more likely to be adherent to ART. Discrimination (OR: 1.13 95%(1.06-1.20)) and perceived symptoms (OR: 1.10 95%CI[1.06-1.25]) are the only individual factors impairing ART adherence.

Conclusions: Adherence is not only determined by individual behavior, but also depends on the organizational characteristics of care services. Health policy in Cambodia should include training for care workers listening patients about the undesirable effects of the treatment in order to reduce the risk of non-adherence. Policy makers should focus on the increase of the number of medical doctors and pharmacists especially in services with big caseloads in Cambodian provinces.
COMMUNITY-LED RESPONSES TO HIV, SCALE UP AND SUSTAINABILITY: EVIDENCE AND CHALLENGES

WEPEE592
REACHING THE MOST VULNERABLE: A DETAILED EVALUATION OF CBOR PEACH AMONG YOUNG CHILDREN IN AREAS OF HIGH HIV PREVALENCE

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Background: The response to HIV/AIDS in resource-limited settings has included a call for the support of community-based organizations (CBOs), which have the potential to provide high quality services for orphaned and vulnerable children. However, evidence is lacking as to whether CBOS are reaching those who are most vulnerable, whether attending these organizations is associated with greater psychosocial wellbeing, and how they might work.

Methods: Cross-sectional data were obtained from the Young Carers and Child Community Care studies, which both investigated child wellbeing in highly HIV prevalent areas in South Africa using standardized self-report measures. Children from the Child Community Care study were all CBO attenders, whereas children from Young Carers were not receiving any CBO services, thereby serving as a comparison group. The final sample included 1884 South African children aged 9-13.

Multivariable regressions were used to test whether children attending CBOs were more deprived on socio-demographic variables (including housing, employment, school attendance, and community violence), and whether CBO attendance was in turn associated with better psychosocial outcomes (including depression, suicidal ideation, and trauma). Mediation analysis was conducted to test whether more positive home environments mediated the association between CBO attendance and significantly higher psychological wellbeing.

Results: Overall, children attending CBOs did show greater vulnerability on most socio-demographic variables. For example, compared to children not attending any CBO, CBO-attending children tended to live in more crowded households (OR=1.22) and have been exposed to more community violence (OR=2.06). Despite their heightened vulnerability, however, children attending CBOs tended to perform better on psychosocial measures: for instance, showing fewer depressive symptoms (B=0.33) and lower odds of experiencing physical (OR=0.07) or emotional abuse (OR=0.22). Indirect effects of CBO attendance on significantly better child psychological wellbeing (lower depressive symptoms) was observed via lower rates of child abuse (B=−0.07) and domestic conflict/violence (B=−0.03) and higher rates of parental praise (B=0.03). Null associations were observed between CBO attendance and severe psychopathology (e.g., suicidality).

Conclusions: These cross-sectional results provide promising evidence regarding the potential success of CBO reach and impact among children in HIV-affected areas but also highlight areas for improvement.

WEPEE593
WELL-DESIGNED GRADUATION OF VULNERABLE CHILDREN CRITICAL TO SUSTAINING OUTCOMES: AN EFFECTIVENESS ANALYSIS OF CHILD GRADUATION PROCEDURES AND OUTCOMES IN ETHIOPIA’S YEKOBEB BERHAN PROGRAM

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Background: USAID/Ethiopia’s Yekobeber Berhan Program’s goal is to reduce vulnerability and increase resiliency among highly vulnerable children. It is implemented through 32 local partners (IPs), over 700 community committees, 15,000 commuual volunteers and local government. The program currently supports over 325,000 vulnerable children and their families in high HIV-prevalence urban areas. Local community actors have been trained and mentored in beneficiary selection, need assessments and care planning, service provision and program transition and/or beneficiary graduation.

The program employs the coordinated approach to deliver quality care and support, and uses a well-designed graduation strategy to graduated children and caregivers when desired improvements in their conditions have been achieved. A recent study of graduated children and their caregivers was conducted to understand their conditions 6 - 12 months after graduation.

The research question was, “Has the situation of graduated children changed [improved, same, or deteriorated] 6-12 months after their graduation?”

Description: The study conducted on 3,201 graduated children and their families, using the customized Child Status Index tool, revealed important improvements in well-being on all 20 indicators. The study showed that 78% of the children had a dramatic reduction in unmet needs and had continued to experience improvements in their conditions after their graduation from the program. A vulnerability analysis of their households revealed that nearly all (99.5%) were economically stable and able to meet basic needs of their children. The results indicate that the program’s outcomes at child and household level are sustainable.

Lessons learned: A well designed graduation strategy is critical to improving the well-being of children and their families. In addition, helping households understand that graduation is the goal and connecting them to a network of support systems enhances their ability to actively participate in achieving desired changes in their lives and family conditions.

Conclusions/Next steps: The dramatic improvements in the conditions of graduated children and their families suggest a carefully planning and graduation strategy is needed to address the unique needs of vulnerable children and their families. Further, the utilization of highly localized tools and active participation of community starting from program design significantly accelerate graduation of beneficiaries and sustainability of the program’s outcomes.
**WEPEE595**

**“EENY MEENEY MINYE MOE”: THE EFFECTIVE SELECTION OF ENGAGEMENT AGREEMENTS NETWORKS WITH KEY AFFECTED POPULATION SUBGROUPS**

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**Background:** JumpStart - MSM and transgender networks capacity strengthening initiative (JumpStart) is an activity implemented by Asia Pacific Coalition on Male Sexual Health (APCOM) and Australian Federation of AIDS Organisations (AFAO). The activity provided national MSM and transgender networks with tailored technical support by catalysing on their transformational capacity. Ultimately, the networks will improve their advocacy engagements at a country level for a more impactful and effective HIV response.

**Description:** In 2014 and 2015, the national networks in Cambodia, Malaysia, Myanmar, Vietnam and Thailand accomplished the Rapid Assessment Apparatus (Rap App) which measures and identifies their programmatic and organisational capacities. The Rap App also assessed their engagements with the key affected population (KAP) subgroups, advocacy strategies and impact to society.

**Lessons learned:** The Rap App analysis across the networks found that KAP engagements determine their overall organisational advocacy strategy.

**Conclusions/Next steps:** National networks employing health-based advocacy are don’t know how to achieve particular targets among identified key affected population subgroups. The regional HIV advocacy and competitive funding streams has mainly influenced the country level advocacy. In order for a more impactful and effective HIV response, the country level advocacy needs to go beyond health perspective and encompass rights-based approach to catalysing on all key population subgroups.

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**WEPEE596**

**BUILDING CAPACITY TOWARDS COMMUNITY-LED HIV SERVICES: THE FIRST COMPREHENSIVE HIV PREVENTION AND PREVENTION SERVICE MODEL LED BY MSM AND TG COMMUNITIES IN THAILAND**


**Background:** To achieve the UNAIDS 90-90-90 target, countries are increasingly relying on community resources to expand HIV testing, antiretroviral therapy (ART) and retention support. The Thai Red Cross AIDS Research Centre and the USAID LINKAGES Project, through PEPFAR funds, worked to demonstrate the first community-led HIV treatment and prevention service model for MSM and TG in Thailand.

**Description:** A comprehensive community-led HIV service model for MSM and TG was established at four community-based organizations (CBOs); SWING worked with male sex workers in Bangkok/Pattaya, Rainbow Sky Association of Thailand worked with MSM/TG in Bangkok/Hat Yai, Sisters worked with TG/MSM sex workers in Pattaya, and Caremat worked with MSM/TG in Chiang Mai. CBO staff were trained/coached to provide HIV/STI testing, point-of-care CD4 measurement, ART maintenance, tuberculosis screening/prophylaxis, pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP), and retention support to clients. Quality assessment and PEPFAR Site Improvement Measurement (SIM) tools were used to routinely monitor service quality. Local networks with health professionals were successfully established to provide local oversight to the CBOs and allow case referral when needed.

**Lessons learned:** Community-led HIV services were successfully implemented: From May 2015-January 2016, these CBOs provided HIV testing to 1429 clients (995 MSM, 434 TG), diagnosed 238 HIV-positive individuals (200 MSM, 38 TG), and 77% successfully initiated ART within a median time of 15 days. From October 2015, CBO staff already started PrEP to 130 HIV-negative individuals. CBOs could be empowered to conduct HIV services: CBO staff were successfully trained as HIV counselors, HIV testers, HIV care providers, and PrEP/PEP providers. They were eager and proud to have their capacities built beyond their routine activities. Quality assessments demonstrated increased capacities in clinical and laboratory services over time. SIM scores increased from 80.5 to 93.4.

**Conclusions/Next steps:** Model has been shared to obtain national support for endorsing, sustaining and expanding these community-led HIV services. Concerted efforts are needed to inform and reform policy and regulatory frameworks to i) permit CBO staff to perform health-related tasks, ii) formalise their status and professionalisation, and iii) overcome resistance of other health professionals and institutions.

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**WEPEE597**

**MSM COMMUNITY MOBILIZATION FOR HIV PREVENTION IN UKRAINE: THE EFFECTIVENESS OF MPowerMent BEHAVIORAL INTERVENTION**

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**Background:** Men who have sex with men (MSM) is one of the key groups most affected by HIV in Ukraine. HIV prevalence among Ukrainian MSM in 2013 reached 5.9%. There is a lack of behavioral interventions (BI) with proven effectiveness for HIV prevention among young MSM in Ukraine. Mpowerment is a community-level BI focused on HIV prevention among young gay/bisexual men. It was implemented in the USA, but never has been evaluated in Ukraine before.

**Methods:** In 2013-2015 Mpowerment was implemented in three Ukrainian cities among young (18-29 y.o.) MSM by local NGOs. A cohort of young MSM was recruited independently of the intervention in five cities (three cities - intervention communities, two - comparison communities). Social-demographic and behavioural characteristics were collected at baseline and at 12-month follow up. The significance of behavioral changes was assessed in both groups using paired t-test (numerics) and McNemar’s test (categorical variables).

**Results:** 991 MSM (688 intervention communities, 303 comparison communities) were included in the study. 708 respondents (574 intervention, 134 comparison) completed 12-month follow up. 365 (51.3%) identified as gays, 267 (37.7%) - as bisexual; mean age=23.6 years. Diffusion of Mpowerment was observed in three intervention communities: 46.9% of the respondents heard about Mpowerment, 20.7% participated in BI events (dance parties, movie nights etc.), 16.5% invited their friends to participate in the BI events. The sexual behavior in intervention communities demonstrated positive changes (see table): the mean number of sexual encounters in six months decreased from 3.83 to 2.82 (p < 0.001), the proportion of men who had unprotected anal sex with non-steady partner within last three months decreased from 49.3% to 32.9% (p < 0.001) and proportion of MSM who had anal sex with men within last month and always used condoms increased from 30.4 to 37.3% (p=0.002). The corresponding indicators in the comparison group did not improve.

**Conclusions:** This study demonstrated that the Mpowerment project, a community-level HIV prevention intervention, resulted in reduction of unprotected anal sex among young MSM in Ukrainian settings.

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**Table:**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intervention communities</th>
<th>Comparison communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of male sexual partners last six months</td>
<td>3.83 (5.6)</td>
<td>4.47 (6.2)</td>
</tr>
<tr>
<td>The proportion of men who had unprotected anal sex with non-steady male partner last three months (%)</td>
<td>30/164 (18.4)</td>
<td>67/164 (40.5)</td>
</tr>
<tr>
<td>The proportion of men who had unprotected anal sex with male partner in last six months (%)</td>
<td>30/164 (18.4)</td>
<td>67/164 (40.5)</td>
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</tbody>
</table>

**[Sexual behavior changes among young MSM]**
WEPEE998
IMPACT IN HIV CARE CONTINUUM OF A TAILORED COMMUNITY-BASED HIV VOLUNTARY COUNSELING TESTING CENTRE FOR MEN WHO HAVE SEX WITH MEN: CHECKPOINTLX, LISBON, PORTUGAL
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Background: Portugal estimates that 20 to 25,000 people living with HIV are undiagnosed and in high prevalence settings, such as Lisbon, men lag behind with late or delayed prevention, care and support. WHO stressed that countries with HIV concentrated epidemics have to prioritize and focus on tailored community-based HIV testing sites (HTS) approaches for those who remain undiagnosed and at greatest ongoing risk for HIV infection. In 2011, Treatment Activist Group (GAT) opened the first community-based HTS in Portugal, tailored to men who have sex with men (MSM).

Description: CheckpointLX is a peer-led, community-based, voluntary counselling, testing and linkage to care centre tailored for MSM. Provides condoms and lube, tailored counselling, HIV, syphilis, HCV, gonorrhea, chlamydia and HPV screenings programs, escort those with HIV reactive test to hospital for care and gives access to web-based anonymous partner notification. This centre generates surveillance data through an open cohort, a joint GAT and ISPU-P/IPUUnit collaboration.

Lessons learned: Between April 2011 and December 2015, 10,002 HIV tests were performed in MSM, 4.1% reactive overall. According to official surveillance data, per civil year, on national level, CheckpointLX found 8.71% (2011), 15.27% (2012), 19.95% (2013) and 26.29% (2014) of MSM new HIV infections. Linkage to care was 79.49% (2011), 73.97% (2012), 78.05% (2013), 83.33% (2014) and 74.78% (2015). Overall referred, 2.3% had confirmed primary HIV infection. In 2014, almost 40% of the MSM new cases where late presenters at national level, whilst our data showed only 15%. Between April 2011 and February 2014, 804 MSM were followed for a total of 893 person-years. The overall seroconversion was 2.80/100 person-years (95% CI: 1.89-4.14).

Conclusions/Next steps: CheckpointLX shows to have an increasing impact on MSM early diagnosis and linkage to care on both local and national levels. The replication of this centre in other Portuguese high prevalence settings, such as Porto, is urgent. Due to persistent high incidence estimates, new HIV prevention tools roll-out are pressing, namely pre-exposure prophylaxis. This centre has been recognized by ECDC as a new and innovative service developed in Portugal reflecting the Communication’s emphasis on key vulnerable populations and selected by WHO as an example of good practice reflecting the new HTS recommendations.

WEPEE999
USE OF COMMUNITY OVC PLATFORM FOR HIV CASE IDENTIFICATION (HOW TO DO BETTER TARGETING)
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Background: In Mozambique, there are approximately two million orphans and vulnerable children, 800,000 of which orphaned due to AIDS. In 2009, Mozambican youth aged 12-19 accounted for 6.8 percent of the overall cases of HIV/AIDS in Mozambique (INSIDA2009). Despite the high percentage of youth cases, there are very low numbers of children on antiretroviral therapy (ART). In 2012, existing vast OVC platforms throughout the country let to the recommendation to utilize them for active case identification of children with HIV.

Description: The use of existing community OVC platforms for HIV case identification illustrated how OVC programs fit in the HIV continuum of response and how to target testing more effectively. Implementation of such strategies includes: case management, coordination, and facilitation. First, volunteers identify the needs of OVC at a household level. Then work with families to develop comprehensive care plans, including HIV testing and counseling for all OVC beneficiaries. Next, the program works to increase coordination and collaboration between both OVC and HTC providers. Lastly, the program helps to facilitate access to HTC for OVC families. The OVC volunteers mobilize families and work with HTC providers to test all members in the family who desire to know their status.

Lessons learned: In FY15, Gaza and Zambezia, two of Mozambique’s high HIV prevalence provinces (together these two provinces account for about 40% of PLHIV in Mozambique) and high OVC burden were studied. The results showed that out of 2,491 beneficiaries tested, 91 tested positive (3.7 percente positivity rate). This result led to the numerous lessons including targeting all beneficiaries may not be the best approach, and that there are particular characteristics of those tested positive, which can be used to make targeting more effective. OVC implementing Partners will target children with cases of school absenteeism, those who are malnourished, or have skin problems. Furthermore implementing partners discovered issues related to stigma and caregivers opting out of testing when targeting the entire household.

Conclusions/Next steps: Partners will continue to sensitize families to actively seek HTC at voluntary counseling and testing sites for those willing to go and those who do not know their status.

WEPEE600
INNOVATIVE AND STRUCTURED APPROACH OF CRISIS INTERVENTION AMONG FEMALE SEX WORKERS (FSWs), AN IMPORTANT FACET OF HIV INTERVENTION
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Background: Female Sex workers in India face harassment and violence from clients, pimps, regular sexual partners, family, and community people. In India, 70% sex workers in a survey reported being beaten and harassed power structures. This has been a challenge for the HIV Targeted Intervention (TI) Program of National AIDS Control Organization (NACO); as it prevented many FSWs from accessing HIV services because of the unconducive environment.

Description: Knowledge Sharing (KS) Project a pilot initiative (from October 2015 to December 2015) supported by World Bank and NACO. Experimental knowledge of Delhi-based TI documented and shared structured crisis response system for effective management of crisis of FSWs with TI of Rajasthan. These innovative and tested approaches of crisis management were replicated in the state of Rajasthan after being tailored to the local context. The approach was made adaptable to the intervention set up based on regional/local, social and cultural milieu. Handholding and onsite support was provided by Delhi TI to Rajasthan TI for replication. The experimental knowledge includes but not limited to, restructuring the existing crisis response mechanism, 24/7 open system for reporting of crisis, involving the local influential leaders including religious leaders, sensitizing the law enforcement agencies/police and engaging legal experts. New approaches was implemented in Rajasthan for the period November-December 2015.

Lessons learned: Through the experimental knowledge gained from KS initiative, there has been an increase in reporting of crisis by 15% and success rate of resolving crisis has increased by 33%. Further, this has gained FSW community trust over the TI and led to uptake of services by increase in footfall at Drop-in-center.

Conclusions/Next steps: Having an active 24/7 structure for reporting and responding crisis and involving police and legal expert in the HIV intervention among FSWs, has benefited the program. This experimental learning will be shared with other FSW TIs in the country, based upon their needs.

WEPEE601
A COMMUNITY-BASED APPROACH TO ASSESS THE SITUATION OF HIV IN THE KOKOYO INFORMAL GOLD MINING SITE: WHAT IS BEHIND THE SHINE OF GOLD CONCERNING HIV EPIDEMICS IN MALI? (ANRS-12339/SANU GUNDU)
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Background: The particular poverty context of informal gold-bearing zones increases vulnerability vis-à-vis health problems, especially sexually transmitted infections (STIs) including HIV. In these sites, the presence of sex workers, and sex-related beliefs may impact HIV prevalence that could be higher than the national prevalence around 1.4%. However, little is known about the HIV epidemics among people attending Malian informal gold mining sites. This analysis aims to estimate HIV prevalence and its determinants among people living in the informal gold mining site of Kokoyo, one of the most important in Mali.

Methods: ANRS-Sanu Gundo is a cross-sectional survey conducted in 2015 at Kokoyo. Authorities, village representatives, and gold diggers contributed to the elaboration of the strategy and tools to conduct the survey. ARCAD-Sida, a Malian NGO, organized prevention activities, medical check-up including STIs HIV testing
and treatment. Those attending the activities were invited to participate to the quantitative and qualitative survey (focus groups). The sample was described and logistic regression was implemented to estimate the characteristics associated to be tested HIV+.

Results: 236 persons attended the prevention activities: 28.8% gold diggers, 11.9% female sex workers, 33.5% female non-sex workers, 5.9% guards, and 19.9% men with another gold mine-related activity (principally street vendors). STIs treatment was prescribed to 150 (64% were female) and 228 participants accepted the HIV test. The overall prevalence was 8.5%: 3.6% for female sex workers, 7.9% for gold diggers, and 13.9% for female non-sex workers. Among those diagnosed HIV+, 40% had never been tested before the survey. Multivariate analyses show that female sex workers (OR=3.46/p=0.032), participants aged 22-30 years (22-30years/OR=11.10/p=0.034 and 27-30year/OR=12.59/p=0.028, vs. youngest and oldest), those earning less than 12000FCFA(19.85$/week) (OR=1.58/p=0.01), and those perceiving poor health status before being tested (OR=4.98, P=0.006) were more likely to be HIV+.

Conclusions: Our results pointed out a high HIV prevalence among people living in informal gold mines and a small number of persons tested before the survey, especially non-sex worker females.Bringing information/prevention activities closer to people working in informal gold mines is an urgent public health action.

WEPEE602

TRANSGENDER VOICES, TRANSGENDER POWER, IMPROVING HEALTH AND PREVENTING HIV THROUGH COMMUNITY-LED INTERVENTIONS AND STRENGTHENED SYSTEMS: EXPERIENCE FROM THE PEHCHAN PROGRAM IN INDIA

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Background: With 8.82% HIV prevalence, transgender women and hijras have the highest HIV prevalence among key populations in India. Under National AIDS Control Programme - Phase III, transgender/hijra people were counted under MSM umbrella and did not receive specific services responsive to their needs. The government-funded Targeted Intervention programme had limited opportunity for community-led efforts, capacity building and advocacy around transgender issues.

Description: Implemented by India HIV/AIDS Alliance with support from the Global Fund, the Pehchan programme has served 32,871 transgender women and 16,263 hijras. Over the last five year, through a community-led approach, Pehchan provided a range of services, including intensive outreach, referral and provision of community-specific sexual health services, counselling, violence mitigation, support to access social entitlements, and fostering an enabling environment by organizing advocacy events at state and national level. Through December 2015, the programme registered 580 transgender/hijra individuals for ART. 1,137 cases of violence against the community were reported, and 1,032 individuals have received support for violence mitigation. A total of 2,315 transgender women and 2,015 hijras linked with social entitlement schemes.

Lessons learned: Pehchan helped transgender/hijra beneficiaries not only improved access to sexual health services, but also strengthened their voice at state and national level as a collective effort to ensure their health and rights. With Pehchan support and guidance, the National AIDS Control Organization supported efforts to develop a transgender-specific Targeted Intervention strategy.

Conclusions: Next steps: Transgender and hijra people in India are marginalized and have been largely unable to access health and other services. Even after the April 2014 Supreme Court of India judgement recognizing the rights of the Third Gender, life on the ground has been largely unchanged. The community-led and need-based approach of Pehchan has complemented the National AIDS Control Programme by facilitating access to sexual health services and by developing capacity of transgender/hijra individuals and organizations to partner with government to improve health access and rights protections.

WEPEE603

MICRO PLANNING AS AN INNOVATIVE TOOL TO REACH PEOPLE WHO USE DRUGS (PWUD)

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Background: Recent studies in Tanzania have shown high HIV prevalence among people who inject drugs (PWID) and other people who use drugs (PWUD). A rapid assessment and response survey undertaken in 2011 in Temeke, Dar es Salaam, by Medecins du Monde (MdM) revealed HIV prevalence rates of 26% among PWUD while 34.8% among PWID and 67.6% among women who inject drugs (WWID). This calls for novel approaches and effective services delivery interventions.

Methods: MdM piloted a micro planning (MP) program in which trained peer educators (PES) deliver tailored harm reduction (HR) services to their peers, in the hotspots where they are using. Each PE has his/her own clients with whom s/he reviews needs on a weekly basis and delivers services accordingly. Services consist of NSP & referral to opioid substitution treatment (OST) for PWID; referral to MdM for regular HIV, hepatitis, STI & TB screening for all PWUD as well as follow-up on general health; and treatment adherence for PWUD on ART, OST, TB or other treatment.

Results: With MP, access to HR services has significantly improved; the number of PWUD accessing services increased by four-fold, while the number of syringes distributed tripled. Most PWUD are now aware of their HIV status, thanks to increase in testing; the number of PWUD on ART increased by 37%. Reaching women who use drugs (WWUD) appears to be a challenge that has yet to be overcome.

Conclusions: MP proves a replicable means of enhancing HR services by PWUD in a resource limited setting where access to essential health services otherwise remains low.

WEPEE604

COMMUNITY-BASED HIV INTERVENTIONS COSTS AND COST-EFFECTIVENESS STUDIES: WHY SO FEW?

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Background: This study seeks to assess current gaps in published cost and cost-effectiveness studies on community-based HIV interventions and to critically review existing costing methods in the light of community-based interventions’ specificities.

Methods: We reviewed 46 published primary studies and 4 costing tools from the period 2000-2015 about the costs and cost-effectiveness of community-based HIV interventions. Studies were assessed using a data extraction framework. We complemented this search with five formal interviews with costing experts.

Results: The results suggest the published literature on costs and cost-effectiveness of community-based HIV interventions remains sparse, with important gaps in terms of interventions, target populations and geographical locations. The scarcity of dedicated tools and guidelines easily available at global level may further slow down the uptake of community-based HIV costing. Finally, methodological challenges linked to defining the intervention’s scope and outputs and measuring its inputs and costs, might hinder the productions of costs of community-based HIV interventions.

Conclusions: Getting a general understanding of the challenges and barriers hindering the development of costing studies of community-based HIV interventions can help design methodological and practical solutions to overcome them. Getting more accurate information on the costs of community-based HIV responses will ultimately help leverage them as an additional way to achieve global targets.

WEPEE605

BUILDING RESEARCH CAPACITY AND LEADERSHIP AMONG PEOPLE LIVING WITH HIV (PLHIV) THROUGH MEANINGFUL ENGAGEMENT AND STRUCTURED MENTORSHIP: INSIGHT FROM THE COMMITTEE FOR ACCESSIBLE AIDS TREATMENT, TORONTO, CANADA

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Background: People living with HIV (PLHIV) experience systemic barriers to meaningful engagement in research. Despite claims of valuing the lived experiences of PLHIV, there is a lack of political will and investment in research capacity building of PLHIV. Underpinned by the principles of greater involvement and meaningful engagement (GIPA/MEPA) of PLHIV, the Committee for Accessible AIDS Treatment (CAAT) established policies to hire and mentor PLHIV as peer researchers in all their community-based research (CBR) studies. In this paper, we draw on the process outcomes of the multi-year Community Champions HIV/AIDS Advocates Mobilization Project (CHAMP) to illustrate the impact of GIPA/MEPA integration and structured mentorship on PLHIV empowerment.

Description: Between 2011 and 2015, CHAMP hired seven PLHIV as peer research associations (PRA). GIPA/MEPA principles were integrated into CHAMP’s terms of reference. CHAMP provided comprehensive and ongoing training to all PRA on CBR design, research ethics, outreach and recruitment, focus group facilitation, survey
WEPE606 SUSTAINING HIV PREVENTION, CARE AND TREATMENT PROGRAMMES FOR THE YOUTHS IN CHIPATA DISTRICTS THROUGH YOUTH LEADERSHIP

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Background: Comprehensive HIV prevention information, access and utilization of sexual and reproductive health services, is low among the youths in Chipata district. While sexual activity is estimated to start at the age of 13, HIV prevalence among 15-24 year olds is reported to be increasing among females than in males. To increase access to such services SAT Zambia funded Chisomo to design and implement an intervention to increase youth access to SRH services with a primary focus on HIV testing and prevention.

Description: Implemented between January 2014 and March 2015, 5 school-based youth clubs and 5 communities based clubs were established in the district. Information and weekly activities developed with youth involvement. Previously non-functional, all 5 schools clubs are functional reaching 300 youths with information and referrals for SRHR. The Gender Transformative mapping exercise showed that youths involved in club activities demonstrated increased understanding of transmission modes of HIV as well as the risk of having many sexual partners to HIV infection. Access to HTC increased through linkages and there is reduction in the number of sexual partners among older youths on this program. Communication with parents improved due to community meetings on SRHR for the youths in the community, while teenage pregnancies and school drop outs decreased within the period of implementation in the targeted schools. EG one school before intervention had 54 pregnancies in a year but after implementation reduced to 22 in 2015. Youths acquired other skills such as presentation and leadership. Interventions for youths must focus on building skills and making them “do it for themselves.” Building a supportive environment is important. The approach can be used beyond SRH issues as it has proved to be empowering.

Conclusions/Next steps: There is need to scale up the intervention and have further evaluations to validate its impact for replication. The project has been extended within the districts and has raised demand from other areas in districts.

INCREASING CAPACITY OF PUBLIC HEALTH SYSTEMS TO DELIVER HIV CARE AT SCALE

WEPE607 TRANSITIONING AN HIV RESPONSE TO LOCAL OWNERSHIP, A WAY FOR ACHIEVING 90-90-90

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Background: Between 2004 and 2013, our program supported rapid scale-up of HIV care and treatment services for poor and underserved people in ten countries across Africa, the Caribbean, and Latin America. The program established a basic package of HIV care and treatment services in resource-constrained environments with the goal of transitioning it to local partners (LPs). LPs capacities were strengthened to ensure smooth transition and sustainability of the HIV response program. This abstract compares their current antiretroviral treatment (ART) qualitative and quantitative outcomes with the program’s achievements at the time of transition two years ago.

Methods: A qualitative evaluation; conducted in Kenya, South Africa, Tanzania and Uganda; consisted of a review of pre-transition program documents, including transition plans, and 61 phone/skype interviews with CRS staff, LPs, current and former program staff, local partner treatment facility staff, and government health ministry staff. A common interview guide, developed in consultation with former program staff, was used in all interviews. Interviews were triangulated to account for any potential biases. A comparison of the pre-transition program’s and three LPs’ patient enrollment on ART for years 2012/13 and 2014 (excluding South Africa) was conducted.

Results: Country profiles were compiled for Uganda, Tanzania, Kenya and South Africa. The range of increase in patient enrollment on ART was between 24% and 40%. Uganda had the highest increase in patient enrollment (40%). After the transition, LPs initiated care and treatment services at 57 additional facilities and the number of patients enrolled on ART increased by 53%. Loss to follow up, retention and mortality rates were analyzed and general LPs performance was found to be at similar levels as the pre-transition program.

Conclusions: LPs should be provided with capacity strengthening to ensure that sustainable and quality programs are provided by local communities. LPs have shown their capability to maintain and continue providing a high-quality ART program. Under their leadership, the number of patients enrolled on ART has increased and qualitative outcomes have been maintained at preferred levels. This shows that local ownership is a critical factor in achieving the PEPFAR 3.0 and UNAIDS 90/90/90 goal by 2020.

WEPE608 SCALE UP AND SUSTAINABILITY OF HIV TESTING AND COUNSELING THROUGH TASK-SHIFTING APPROACH

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Background: In an effort to scale up HIV testing services and respond to the critical shortage of health care providers in Namibia, the President Emergency Plan for AIDS Relief (PEPFAR) and the Ministry of Health and Social Services (MHOSS) entered into a partnership to implement a task-shifting approach by introducing lay community counselors (CCs) in public health facilities to provide HIV testing and counseling (HTC). We present findings of program evaluation after ten years of implementation and describe the process of transitioning this new cadre into formal government workforce.

Description: An end-term mixed methods program evaluation was conducted that triangulated results of multiple qualitative and quantitative data sources to determine the extent to which task-shifting affected the workload on other healthcare providers, the role of CCs in the scale-up of HTC in Namibia, the quality of services provided by CCs and the level of client satisfaction with their services. There were 525 CCs in service at the time of this evaluation; 70% were females; 88.4% had secondary school education; 60% worked in clinics and 42% had worked for 6 or
more years. Between 2007 and 2013, CCs conducted 98.100% of rapid HIV testing in public health facilities and quality control data indicated an average of 99.9% concordance rate for proficiency tests and 0.2% error during re-testing. Although CCs reported receiving low remunerations for their services, interview and focus group discussions (FGDs) with healthcare workers (n=84) revealed their invaluable contributions towards the scale-up of HTC, ART, TB/HIV care and PMCT programs. More than 90% of interviewed clients (n=800) reported that CCs provided sufficient information about HTC, adhered to confidentiality and adequately explained test results.

Lessons learned: MOHSS, fully transitioned all 535 lay counsellors from PEPFAR support to the Government Staff Establishment as Health Assistants by end of September 2015. This program provides a best practice example of how effective multilateral partnerships, careful planning and government ownership can increase access to sustainable HIV response through task-shifting.

Conclusions/Next steps: Continued monitoring of the transitioned cadre to ensure that their core function of HTC services is maintained given their additional responsibilities as health assistants.

ROLE OF COMMUNITY ORGANIZATIONS IN LINKING PEOPLE TO HIV SERVICES AND STRENGTHENING THE HEALTH SYSTEM

WEPEE609
THE GETTING TO ZERO SAN FRANCISCO CONSORTIUM: EARLY RESULTS
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Background: Cities are mobilizing to address UNAIDS “90,90,90” targets. In 2013, San Francisco formed a new, independent, multisector “Getting to Zero (GTZ) consortium aiming to harness public and private efforts to reduce new HIV infections and related deaths by 90% in San Francisco by 2020.

Description: The consortium activated community, providers, researchers, government and private sector to develop a strategic plan and committees to address gaps in the City’s response. Because 94% of infected persons are already aware of HIV status in San Francisco, the plan emphasized high yield prevention and treatment care cascade strengthening programs to address 4 problems
1) Underdeveloped systems for pre-exposure prophylaxis (PrEP);
2) Inadequate HIV care initiation for new diagnosis;
3) Gaps in retention and re-engagement in care;
4) HIV-related stigma.

Lessons learned: The PrEP committee coordinated
1) “Getting the word out” through media, social network, and PrEP ambassadors
2) “Kick Starting PrEP” through provider training and health navigators. Over the last year, PrEP delivery sites increased to >30 clinics, >120 providers were trained to deliver PrEP, and community surveys of MSM report PrEP use increased from 15% to 22%. The GTZ “Rapid” committee expanded a pilot public hospital program already achieving time from HIV diagnosis to viral suppression of 65 days through same day linkage and comprehensive medical and social support to 3 sites city-wide, with over 100 enrollees. The Retention and Re-engagement committee identified
1) gaps in support services,
2) need for navigators to re-engagement clients and prevent loss to follow-up and
3) frontline worker capacity-building goals.

After one year, 73% of patients enrolled in navigation have re-linked to care; three public health clinics are implementing an evidence based reengagement and retention package. The stigma committee is developing a city-wide needs assessment and related deaths by 90% in San Francisco by 2020.

Conclusions/Next steps: The SF GTZ Consortium has achieved multiple process outcomes of its strategic plan including
1) Increased PrEP demand and access,
2) Reduced time from HIV diagnosis to viral suppression
3) Increased navigator support for retention.

WEPEE10
SOCIAL AND FINANCIAL INCLUSION SCHEMES AND HIV VULNERABILITY REDUCTION:
A STUDY OF MEN WHO HAVE SEX WITH MEN IN SOUTHERN INDIA
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Background: HIV prevention interventions are increasingly focusing on social and financial inclusion of high-risk groups as a vulnerability reduction strategy. Our study examines the association between participation in savings and ownership of social entitlements, and HIV risk, among men who have sex with men (MSM) in southern India.

Methods: Data are drawn from a cross-sectional survey (2014) among 1200 MSM. Social and financial inclusion was measured using a composite index of ownership of four basic entitlements: three government-promoted social entitlements (ration card, voter identity card, and Adhaar card, which allow access to social security programs and voting rights), and a bank account; those with all four entitlements were defined to have high social and financial inclusion, and others were considered to have low inclusion. Multivariate analysis explored the association between high/low social and financial inclusion and four binary HIV risk outcome indicators: HIV testing, sexually transmitted infection (STI) (past 6 months), experience of violence (past year), and consistent condom use with regular non-partner male partners (past year).

Results: Just half (50%) of all MSM owned all four entitlements. Around two-fifths (58%) owned a bank account and 78% had accessed all three social schemes. High social and financial inclusion was positively associated with lower HIV risk; MSM with access to all four entitlements were significantly more likely than those without access to all four entitlements to report HIV testing (Adjusted Odds Ratio [AOR] 1.6; 95%CI 0.96-2.63) and significantly less likely to report recent STI symptoms (AOR 0.3; 95%CI 0.18-0.60). High social and financial inclusion was also positively associated with higher consistent condom use with non-paying regular partners and less experience of violence.

Conclusions: Linking high-risk populations to social and financial inclusion schemes presents an important vulnerability reduction opportunity. Findings highlight that MSM who participate in savings and social inclusion schemes are at substantially lower STI risk, have a higher likelihood of seeking prevention services such as HIV testing, and are more likely to adopt safer sex practices. For a sustained HIV response, and to promote service utilization, prevention programs must prioritize efforts to link all MSM to social and financial inclusion schemes.

WEPEE11
FEMALE SEX WORKERS’ AWARENESS OF AND ACCESS TO HEALTH RIGHTS: FINDINGS FROM A COMMUNITY MOBILIZATION INTERVENTION IN SOUTHERN INDIA
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Background: To promote access to HIV prevention and treatment, the health rights of key populations must be protected. Female sex workers (FSWs) bear a large burden of HIV infection, and community mobilization (CM) programs are adopting strategies to protect and promote FSWs’ health rights to reduce vulnerability and demand services. This study examines awareness of health rights and associated factors, and barriers to accessing rights were neighbors (35%), spouse (19%), lack of knowledge (15%) and government officials (10%); barriers to accessing rights were neighbors (35%), spouse (19%), lack of knowledge (15%) and violence (5%).

Conclusions: FSWs’ awareness of health rights is limited, compromising access to preventive services and elevating vulnerability. Current prevention programs that focus on CM must be continued, given the facilitating role of COs in claiming rights, and the positive association between rights awareness and CM (collective action and collective agency) as well as participation in social/financial inclusion schemes.
WEPEE12
"TOGETHER, WE CAN IMPROVE" : FACILITY-COMMUNITY PMTCT DATA REVIEWS IN MALAWI
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Background: Malawi has made good progress towards eliminating mother-to-child transmission of HIV and keeping mothers healthy and alive. New pediatric infections declined from 21,000 in 2010 to 10,000 in 2014. However, in 2014, only 64% of HIV-positive pregnant women received antiretroviral treatment (ART), and one third discontinued their treatment ('loss to follow-up') at some point along the continuum of care.

Description: Under Malawi’s Optimizing HIV Treatment Access Initiative, healthcare workers and community representatives in three districts addressed loss-to-follow-up by jointly identifying challenges and developing strategies to better support pregnant and breastfeeding women to access services and stay in care. The process included: revitalizing 85 community-based Health Advisory Committees (HACs); convening quarterly health facility data review meetings with district officials, HAC members, community representatives, and health facility staff; and providing follow up and support to facilities and communities.

At data review meetings, participants reviewed dashboards which illustrate quarterly performance for 13 indicators, including antenatal (ANC) attendance during the first trimester, male participation in ANC, delivery in health facilities, and retention in HIV care of women and children. Participants discussed reasons why indicators were colored red (poor performance), yellow (making some progress), or green (achieving targets). Strategies to address bottlenecks at the community and facility levels were debated and agreed upon by facility staff and community members.

Lessons learned: Key indicators showed improvements in facilities participating in the community-facility data reviews. For example:

- Uptake of testing of HIV-exposed infants at 12 months at Jenda Health Centre increased from 13% in May 2015 to 100% in July 2015
- Uptake of HIV-exposed infant testing within two months of delivery increased from 0% in March 2015 to 100% in April - August 2015 at Katete Community Hospital
- Attendance at 4 ANC visits, 12-month retention of pregnant women on ART and 2 month infant HIV testing uptake increased across 31 facilities in two of the three districts.

Conclusions/Next steps: Joint data reviews increased community accountability and resulted in better prioritization of health interventions to improve the impact of PMTCT programs. Involving communities in joint problem solving and action provided a strong pathway to influencing behavior and practices.

WEPEE13
EVALUATION OF SECOND-LINE ART FAILURE AND ELEVATED BILIRUBIN AS A SURROGATE FOR ADHERENCE TO PROTEASE INHIBITOR BASED ART IN TWO URBAN CLINICS IN LILONGWE, MALAWI
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Background: Atazanavir/Ritonavir (ATV/r), the current boosted protease inhibitor (PI/r) used for second line antiretroviral therapy (ART) in Malawi, causes a rise in indirect bilirubin. We sought to determine if elevated serum bilirubin, as a surrogate of ATV/r adherence, can aid in the evaluation of second line ART failure in Malawi.

Methods: We conducted a cross-sectional study of HIV-infected patients who were on PI/r-based second line ART in two urban clinics in Lilongwe, Malawi for at least 6 months. ART and adherence data were extracted from the Electronic Medical Records (EMR) and blood was drawn for HIV-1 RNA, serum total bilirubin, and CD4 count at a clinic visit. Second line ART failure was defined as HIV-1 RNA >1000 copies/ml. Factors associated with ART failure were assessed using multinomial logistic regression model.

Results: 379 HIV-infected patients on second line ART were evaluated; 373 (98.4%) were on ATV/r-based therapy. Mean age was 40.7 years (SD ±10.3), and 144 (38%) were male. Mean duration of second line ART was 41.9 months (SD±27.5), bilirubin level was 2.2 mg/dL (SD±1.6), and 256 patients (67.6%) had elevated bilirubin (>1.3 mg/dL). Overall, 35 (9.2%) patients were failing on second line ART. Among the ART failing vs. non-failing patients, bilirubin was elevated in 34.3% vs. 70.9% respectively (p< 0.001), although adherence by pill count was similar (62.9% vs. 60.5%, p=0.83). The odds of ART failure were higher for young adults aged 25-40 years (adjusted Odds Ratio (aOR) 2.5, p<0.048), those with CD4 count <100 (aOR 17.7, p<0.001), and those with normal bilirubin levels (aOR 5.4, p<0.001) but were lower for the overweight/obese patients (aOR 0.3, p=0.026). Poor adherence by pill count (aOR 0.7, p=0.104) and male gender (aOR 1.2, p=0.698) were not associated with improved risk of ART failure.

Conclusions: Among patients receiving ATV/r therapy, bilirubin levels better predicted ART failure than pill count adherence. Strategic use of bilirubin and viral load testing to target adherence counseling and support may be a cost effective ART response monitoring strategy for young adults and those with CD4 count < 100 who are at increased risk of second line ART failure.

WEPEE14
THE NEED TO DEVELOP EFFECTIVE HIV EDUCATION FOR MEDICAL STUDENTS IN CENTRAL ASIA: INSIGHTS FROM A CROSS-SECTIONAL STUDY AMONG MEDICAL STUDENTS IN ALMATY, KAZAKHSTAN
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Background: The HIV epidemic continues to expand in Central Asian countries including Kazakhstan. Having gained a foothold in the region through transmission in the injecting drug using communities, the epidemic has now bridged to the general population, largely through heterosexual sexual transmission. In Kazakhstan, HIV education was introduced into the medical curriculum in 2011. The purpose of the study was to learn of medical students’ attitudes and behaviors around HIV and safe sexual practices.

Methods: Medical students in Almaty, the largest city of Kazakhstan were invited to participate in a cross-sectional study between April and November, 2013. The self-administered survey included questions about the participant’s risk behaviours (e.g., injecting drug use, condom use), concerns related to HIV infection risk (e.g., medical care exposures, personal behaviours), and ability to identify HIV-positive individuals without asking their status. Fisher’s (2004) Exact Test and multivariate analysis (log-binomial regression) were conducted.

Results: A total of 647 medical students provided sufficient information to be included in these analyses. The majority of students were female (82.2%) and single (92.8%) with a median age of 21-22 years. Sexual activity was reported by 176 (27.2%) students with males much more likely to report sexual activity compared to females (74.8% vs. 16.9%, p< .0001). The majority of sexually active medical students believed they can determine if their partner is HIV-positive without asking them (66.6%) and those who usually could ask HIV-positive individuals. For married or cohabitating women, 92.6% believed they can determine if their partner is HIV-positive without asking them. Bivariate analyses (Chi-square test or Fisher’s Exact Test) and multivariate analysis (log-binomial regression) were conducted.

Training, mentoring, and supervision to improve HIV programmes

INNOVATIONS IN TESTING AND LABORATORY SUPPORT (INCLUDING POINT-OF-CARE DIAGNOSTICS)
WEPEE615

TASK SHARING: EVALUATION OF INTENSIVE CLINICAL MENTORSHIP ON MID-LEVEL PRACTITIONERS’ MANAGEMENT OF TB AND HIV

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Background: In Uganda, majority of the health workforce are mid-level practitioners (MLPs), including clinical officers, registered nurses and midwives, most of whom are often ill-equipped to manage clinical cases of HIV/TB. The Government of Uganda is implementing task-shifting and clinical mentorship of MLPs to help increase access to quality HIV/TB treatment. However, mentorship quality remains highly variable and inadequate. The study tested the effect of intensive onsite clinical mentorship on MLPs competence in clinical management of HIV/TB.

Methods: We conducted a cluster-randomized trial, in which four MLPs from each of five randomly selected health centers in rural Uganda were assigned and received one to one, onsite clinical mentorship for eight hours a week, every six weeks, over a nine-month period; while four MLPs from each of other similar five health centers acted as controls. All MLPs were assessed on HIV/TB knowledge, competence and practice at baseline, and immediately post-intervention. Knowledge and competence assessments respectively used case scenarios and clinical observation tools of patient care, administered at the participants’ work-stations by blinded independent assessors. Statistical analysis was done using mixed effects linear regression model and accounted for the study design.

Results: Mean scores for knowledge increased by 14.5% (p<0.001) and competence by 27% (p<0.001) in the intervention arm relative to the control arm. There was a greater increase in knowledge scores among registered nurses/midwives (17.8%, p<0.001) compared to clinical officers (7.6%, p=0.278) in the intervention arm relative to the control arm. Similar improvements among both cadres were seen in competence scores (nurses/midwives improving by 28.3% [p<0.001] and clinical officers by 23.6% [p=0.007]). MLP in larger ART clinics showed greater improvements in both assessments. Relative to the control arm, the adjusted increase in mean knowledge scores for MLPs in the intervention arm was 16.7 (95% CI: 9.8, 23.6; p<0.001) and 25.9 (95% CI: 14.4, 37.5; p<0.001) for competence.

Conclusions: One-on-one clinical mentorship was an effective in improving MLP knowledge and competence in HIV/TB clinical management. As HIV treatment services scale-up, incorporating clinical mentorship as an approach for in-service training can improve the competence of the available workforce to deliver quality care.

WEPEE616

SUCCESSES AND CHALLENGES OF HIV MENTORING IN A PEPFAR-USAID PROGRAM IN MALAWI: THE MENTEE PERSPECTIVE

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Background: HIV clinical mentoring has been utilized for capacity building in Africa, but few formal program evaluations have explored mentee perspectives on these programs. EQUIP is a PEPFAR-USAID funded program in Malawi that has been providing HIV mentoring on clinical and health systems since 2010. We sought to understand the successes and challenges of EQUIP’s mentorship program through interviews with mentees.

Methods: From June-August 2014 we performed semi-structured, in-depth interviews with EQUIP mentees who had received mentoring for ≥1 year. Interview questions were focused on program successes and challenges and were effective in English, audio recorded, coded, and analyzed with ATLAS.ti version 7. Inductive content analysis was used to identify themes from interviews and proportions of themes were calculated.

Results: Fifty-two mentees from 32 health centers were interviewed. The majority of mentees were 18-40 years old (79%, N=41), 69% (N=36) were male, 50% were nurses (N=26), 29% (N=15) medical assistants, and 21% (N=11) clinical officers. When asked whether EQUIP mentoring was successful, all mentees answered affirmatively (100%, N=52). The most common benefit reported by mentees (33%, N=17) was the increase in clinical knowledge that allowed them to initiate antiretroviral therapy (ART). One-third of mentees (N=17) reported that patient encounters benefitted from EQUIP’s systems mentoring, including support for supply chain (basic supplies and equipment) and the provision of minor construction at clinics allowing for improved efficiency and creating a better environment for mentoring and patient care. The most common challenge (52%, N=27) was understaffing at facilities, with mentees having multiple responsibilities during mentorship visits resulting in impaired ability to focus on learning. Mentees also reported that lack of mentorship at sites pose a challenge for mentor-mentee programs because they pull mentees away from learning experiences to perform duties outside of the HIV clinic. Evaluations of existing mentoring models are needed to continue to improve upon mentoring strategies that result in sustainable benefits for mentees, facilities, and patients.
WEPEEE18
THE EFFECT OF A DIFFERENTIATED MSM SEXUAL HEALTH TRAINING PROGRAMME FOR CLINICIANS AND CLINICAL SUPPORT STAFF ON KNOWLEDGE IMPROVEMENT AND HOMOPHOBIC ATTITUDE ABATEMENT IN THE WESTERN CAPE, SOUTH AFRICA

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Background: While most attention has been paid to offering clinicians MSM training in Africa, there is also a need to offer training to clinical support staff as both groups come into contact with MSM at public facilities. Here it is also important to interrogate a key assumption underpinning clinic training programmes; that an improvement in MSM knowledge is accompanied by a reduction in homophobic attitudes.

Methods: In 2015, 83 clinicians and 113 support staff from 5 clinics in the Western Cape undertook Health4Men MSM Competency training. Both clinicians and support staff undertook ‘foundational’ training covering the need to acknowledge and appropriately address MSM health needs. Clinicians also undertook ‘advanced’ training covering technical details for appropriate sexual health and HIV care. Surveys were administered prior and immediately after training.

Results: Post-training improvements in foundational knowledge and reductions in homophobia were significant for both clinicians and support staff (p< 0.001). Foundational knowledge scores were lower for support staff compared to clinicians prior to training (<p> 0.01) and remained so post-training (<p> 0.05). Among support staff, the relationship between foundational knowledge and homophobic attitudes was significant pre-training (r = -0.427, <p> 0.001) and post-training (r = -0.388, <p> 0.001).

For clinicians, advanced knowledge improved overall (<p> 0.001) but its association with homophobic attitudes was only significant pre-training (r = 0.266 <p> 0.05) and not post-training (r = -0.097, p=0.384).

Participants that scored above 82% in foundational knowledge had a significantly greater probability of showing improvement in homophobia score compared to those who scored below this threshold (p< 0.01).

Conclusions: A need clearly exists not just for clinicians but also support staff to undergo MSM training, with support staff scoring significantly lower in foundational knowledge than clinicians before and after training. Data also shows that a reduction in homophobic attitudes is most apparent only after a threshold in foundational knowledge is obtained for both groups. Clinicians’ advanced knowledge necessary to offer appropriate care need not be associated with a reduction in homophobic attitudes. Policy workers must appreciate the relationship between knowledge improvement and homophobia abatement is not straightforward when considering future training initiatives.

WEPEEE19
BETTER HIV CARE AND ENGAGED HEALTH WORKERS: A MIXED METHODS STUDY FROM TANZANIA

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Background: Low- and middle-income countries are experiencing notable health worker shortages, challenging the provision of quality HIV services at scale. In 2008, the Tanzanian Ministry of Health and Social Welfare declared a health workforce crisis and a plan to increase the workforce by five-fold. By 2013, there were 64,449 health workers, an increase from 47,000 in 2007. An engaged worker is one who is involved, satisfied, and has enthusiasm for their work. Engaged workers also perform better and are more productive. This study sought to identify characteristics of an engaged health workforce and influencing factors; explore the relationship between engagement, performance and retention; and validate a tool to measure engagement.

Methods: Self-administered surveys were completed by 1330 health workers; qualitative interviews were conducted with 50 health workers. Facility-level data were gathered via a survey and record review at 183 randomly selected facilities from 27 districts and 6 regions. Principle Components and Cluster Analyses were performed. Content analysis was conducted.

Results: Four characteristics of an engaged worker were identified: being a change agent (p = 0.75); being accountable (p = 0.69); job satisfaction (p = 0.72); and equitable and client-centered care (p = 0.58). Perceived support from supervisors (p = 0.70) and perceived adequacy of competencies to perform (p = 0.60) were found to influence engagement. Qualitative data indicate that feedback and praise from colleagues and patients impacted engagement. Engagement was not associated with perceived adequacy of resources, but interviews revealed that insufficient human and material resources can contribute to job dissatisfaction. Less than 10% of health workers intended to change jobs in the next two years; engagement characteristics did not determine health worker intentions. Some interview respondents felt changing jobs would negatively impact services while others shared that leaving a job for further education was necessary for professional advancement.

Conclusions: By engaging health workers, the existing health workforce can be optimized to improve and scale-up quality HIV services. Strengthening relationships with immediate supervisors, supporting quality improvement efforts, and strengthening peer learning to improve competencies can improve health workforce engagement.
WEPEE621
ASSESSMENT OF KNOWLEDGE OF PEDIATRIC HIV CARE AND TREATMENT AMONG HEALTH WORKERS IN SOUTH-EASTERN MALAWI
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Background: 2.6 million children under 15 are living with HIV globally, but 1.8 million lack access to lifesaving treatment. To close the treatment gap and provide quality care, well-trained health workers (HCW) are needed. Focused mentorship can equip HCWs to diagnose HIV in children and administer quality care, but there is a paucity of research on specific mentorship needs. Our objective was to assess self-perceived and objective knowledge of pediatric HIV topics (PMTCT/EID, diagnosis, HIV-related diseases, staging, treatment/monitoring) among HCW caring for HIV-infected patients in South-Eastern Malawi.

Methods: We provided a self-administered anonymous survey to HCWs in six districts (catchment area 1.9 million) within Malawi’s Southeast Zone. Perceived knowledge was assessed using a standard four-point Likert scale (1=beginner, 2= somewhat knowledgeable, 3=knowledgeable, 4=expert) and objective knowledge measured using multiple-choice problem-based scenarios based on 2014 Malawi Ministry Of Health ART-PMTCT guidelines defining expected standard knowledge. The survey was piloted, refined, and administered over a 6-month period. Data was entered into an MSAccess database and summarized by descriptive statistics (mean, sd, frequency, percentage). Spearman correlation coefficient was calculated to assess correlation between objective and perceived knowledge using summarized scores by topic.

Results: 292 HCW from 66 facilities participated. Mean(SD) age was 32.9(10.1) years, 56.9% were female, 32.9% were clinicians (Medical/Clinical Officers and Medical Assistants) and 66.4% nurses. Most providers (79.1%) had treated patients with HIV in the previous month. Mean(SD) self-assessed knowledge score was 2.79 (0.66). Mean(SD) objective score was 71.9%(6.4%). Scores were highest in EID/PMTCT (81%) and poor in pediatric TB(47%). Treatment/monitoring and staging were also suboptimal. Overall perceived and objective knowledge were positively correlated (p-value = 0.0001).

<table>
<thead>
<tr>
<th>Topic</th>
<th>Self-Assessment Score (mean, sd)</th>
<th>Objective Assessment Score (mean, sd)</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EID/PMTCT</td>
<td>2.9 (0.86)</td>
<td>81%</td>
<td>0.24</td>
<td>0.69</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>2.87 (0.79)</td>
<td>76%</td>
<td>0.22</td>
<td>0.0002</td>
</tr>
<tr>
<td>HIV-Related Diseases</td>
<td>2.64 (0.73)</td>
<td>71%</td>
<td>0.14</td>
<td>0.0191</td>
</tr>
<tr>
<td>TB (subtopic)</td>
<td>2.25 (0.88)</td>
<td>47%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staging</td>
<td>2.72 (0.87)</td>
<td>68%</td>
<td>0.23</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Treatment and Monitoring</td>
<td>2.81 (0.71)</td>
<td>64%</td>
<td>0.26</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Overall Score</td>
<td>2.79 (0.66)</td>
<td>71.9%(6.4)</td>
<td>0.31</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

[Perceived and Objective Assessment Results]

Conclusions: HCW in Malawi have knowledge deficits in pediatric HIV, with notable gaps in tuberculosis, treatment/monitoring, and staging. Focused attention to these may improve quality care for HIV-infected children. The correlation between perceived and objective knowledge suggests that self-assessment may be an appropriate surrogate for objective assessment in setting training priorities.

WEPEE622
PARTNERING TO STRENGTHEN OBSTETRICS AND GYNECOLOGY (OB/GYN) TRAINING AS A WAY TO PREVENT NEW HIV INFECTIONS IN ETHIOPIA
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Background: Ethiopia is home to approximately 800,000 people living with HIV (PLHIV). Young women are between two and six times as likely to be HIV-infected compared to young men. HIV prevalence among pregnant women has steadily decreased in the last decade and sites that provide prevention of mother-to-child transmission (PMTCT) services have expanded. However, PMTCT coverage and uptake by women in Ethiopia is still low. In 2011, only 33.4% of pregnant HIV-positive women received PMTCT services and only 9.3% of HIV-exposed infants received ARV prophylaxis.

Description: In 2013, the American International Health Alliance (AIHA) began managing an institutional, voluntary, peer-to-peer institutional partnership between the University of Michigan in the United States and St. Paul Hospital Millennium Medical College (SPHMMC), a tertiary level referral hospital, in Addis Ababa. The partnership provided pre-service and in-service training to OB/Gyn residents to improve the overall quality of women’s healthcare, with a specific focus on PMTCT and cervical cancer screening and treatment.

Lessons learned: In two years, the institutional partnership enabled SPHMMC OB/Gyn residents to significantly increase the number of pregnant women who received PMTCT services. For example, the number of pregnant women who tested for HIV and knew their status during pregnancy, labor and delivery, and the postpartum period increased by more than 45% from 2,587 to 3,767. Services for HIV-exposed infants also improved: the number who received an HIV test within two months of birth increased from zero to 44; the number of HIV-exposed infants who received co-trimoxazole prophylaxis within two months of birth more than doubled, and the number who received antiretroviral (ARV) prophylaxis more than tripled. The OB/Gyn residents provided cervical cancer screening, which had never been provided before, to 1,192 women ages 30-49. Almost 20% had precancerous or cancerous lesions and were able to receive treatment.

Conclusions/Next steps: AIHA’s twinning model, which depends on voluntary contributions of time and technical assistance from both partner institutions, has the potential to build specialized healthcare worker capacity and significantly improve and expand access to HIV prevention, care, and treatment services.

WEPEE623
LAY COUNSELORS EMBRACE NEW TECHNOLOGY IN HIV CARE IN BOTSWANA
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Background: HIV Care is improving over time. This is in line with the global goal of 90-90-90. HIV care is also increasingly becoming costly, especially in less developed countries like Botswana. New technology is continuously being introduced with the aim of facilitating affordable, efficient, and improved management of HIV patients. Task-shifting continues to be an option in Botswana. Lay Counsellors are now involved in electronic data collection using tablets and performing Point of Care CD4 testing using a portable PIMA Analyser.

Description: Tebelopele Voluntary Counselling and Testing Centre (TVCT) is participating in the Botswana Combination Prevention Project (BCPP), which seeks to investigate the impact of combination of HIV prevention services in reducing HIV incidence over 36 months in 16-64 year olds residents of Botswana. TVCT provides HIV testing and counselling to all residence aged 16 - 64 years in the fifteen communities across Botswana. TVCT recruited and trained seventy (70) Lay Counsellors and deployed them to provide home and mobile testing to eligible residents in each of the communities. Lay Counsellors use tablets for electronic data collection, and perform Point of Care CD4 testing for clients with HIV positive results. Later during the implementation of the study, Lay Counsellors were also trained in the preparation of Dry Blood Spot for Viral Load Testing. Quality Assurance procedures both for data collection and laboratory processes have been established. Electronic data collection provides timely data to guide client management decisions. Point of Care CD4 eliminates the challenge of transporting samples to far off laboratories and the delay in the provision of the CD4 test result back to the patient.

Lessons learned: The Lay Counsellor cadre continues to be effective and cost-effective in the provision of HIV prevention and care interventions. Lay Counsellors are trainable and easily adapt to change and innovation.

Conclusions/Next steps: With the diminishing resources, governments should continue to adopt and harness the Lay Counsellor cadre in the provision of HIV prevention and care interventions. Lay Counsellors need to be trained and equipped to utilise the technological advances that are available in the service delivery environment.
WEPEE624
SCARLET ALLIANCE NATIONAL TRAINING AND ASSESSMENT PROGRAM, DIPLOMA IN COMMUNITY DEVELOPMENT: PROVIDING A NATIONALLY CONSISTENT, BEST PRACTICE APPROACH TO PEER EDUCATION FOR SEX WORKERS

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Background: Sex worker peer-education has been central to Australia’s successful HIV/STI response and its value and effectiveness is widely recognised as best practice, including by the UN and Government. The role is complex and highly skilled, yet the skills and knowledge of peer-educators is not acknowledged or valued.

Description: Scarlet Alliance National Training and Assessment Program (SANTAP) aims to increase the workforce development of, and number of, trained, qualified sex worker peer-educators. SANTAP sets a national benchmark for sex worker peer-education, providing a set of nationally-recognised qualifications as well as nationally-consistent, best-practice approach to sex worker peer-education. Sex worker peer-educators with at least one year experience are guided by qualified sex worker peer-assessor to identify their skills, prior experience and learning process as evidence to attain a national qualification—the Diploma of Community Development.

Lessons learned: It is often the case peer-educators have acquired skills and knowledge informally in the workplace with little access to nationally structured system-atic training and assessment. SANTAP provides an opportunity to hone existing skills and examine complexities involved in providing peer-education to their own community and assists in maximising the effectiveness of peer-education programs at sex worker organisations through provision of workforce development and formal accreditation of staff.

Conclusions/Next steps: Importantly, the SANTAP is an opportunity for peer-educators to have their work validated and confirmed. The skills and knowledge that inform the complex work of sex work peer-education have never been formally recognised. Recognition assessment makes it possible for sex worker peer-educators to expect recognition respect for and validation of, their skills and competence.

WEPEE625
THE SOCIAL ACCEPTABILITY OF COMMUNITY HEALTH WORKER-LED HIV-TESTING: FINDINGS FROM A MIXED-METHODS STUDY IN SWAZILAND

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Background: Community health worker (CHW)-led HIV testing has been proposed as a key strategy for increasing HIV testing coverage. The CHW Performance Logic Model posits that CHW’s relationship with the community impacts CHW performance. Community trust in CHWs is likely to be of particular importance for CHW-led HIV testing. To inform the model, this mixed-methods study aims to ascertain trust in CHWs and attitudes towards CHW-led HIV testing in Swaziland.

Methods: The data collection tools were designed to assess factors impacting CHW performance as posited by the CHW Performance Logic Model. From June to September 2015, we conducted a household survey covering 2,000 households across 100 enumeration areas using two-stage stratified cluster random sampling in two of Swaziland’s four regions. We also carried out 19 semi-structured focus group discussions (FGDs) with an average of nine participants, stratified by gender, in four rural and four urban communities in Swaziland. Qualitative data was coded and analyzed using an inductive approach.

Results: 48.7% (905/1,859) of household survey respondents stated that they do not trust national CHWs (called RHMs) with confidential medical information. Having ever been visited by a RHWM was highly predictive of distrusting RHMs with confidential medical information (OR: 0.32, 95% CI: 0.25-0.42; p<0.001). Similarly, FGD participants expressed hesitance toward receiving HIV tests from RHMs due to concerns around confidentiality and inadequate training of RHMs in providing HIV tests. Two main reasons for confidentiality concerns were that RHMs are 1) members of the same community as their clients, and 2) mostly female. Social acceptability of HIV testing from CHWs in general, as opposed to RHMs, was higher with 67.7% (1,468/2,168) of household survey respondents trusting CHWs with medical information.

Conclusions: Low social acceptability is a significant obstacle to CHW-led HIV testing in Swaziland, particularly if implemented through RHMs. Our findings suggest that increasing community trust in RHMs’ technical skills and their ability to maintain confidentiality will substantially improve social acceptability, and thus their performance for HIV services. Furthermore, assigning RHMs to work in communities other than the ones in which they reside will likely increase uptake of services for high stigma conditions.

WEPEE626
AN ASSESSMENT OF DECENTRALIZATION OF ANTIRETROViral THERAPY IN MYANMAR

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Background: In the context of expansion plans for improved antiretroviral therapy (ART) coverage, the National AIDS Programme (NAP) under the Ministry of Health Myanmar, with support from WHO, UNAIDS, CDC/PEPFAR, and with involvement of the implementing partners, conducted an ART decentralization assessment of 13 decentralized ART sites across the country in March 2015 by a joint team of national and international experts.

Methods: The decentralized (DC) ART sites’ staff were interviewed using an assessment questionnaire to understand the operations, capacity and management of the sites. Focus group discussions were organized with the site director, partners, and the representatives of networks and NGOs, to understand issues related to the cascade of HIV services. Results: Planning, and coordination partnerships have been established at central and district levels, but not yet at the ART centre/site level. Patient transfer procedures are generally well understood and followed. Task shifting was observed in some DC sites. Most of the essential services: HIV testing and counselling, TB screening and treatment, PMTCT and STI services were available on site, or through referral. In general, patients reported satisfaction with services in the DC sites. However, viral load (VL) and dry blood spots (DBS) for early infant diagnosis (EID) are not currently available in most of the sites. CD4 testing was not available for most of the sites, to which quality assurance (QA) has not been observed. There is generally a lack of system to assess the performance of the DC site, especially with respect to the cascade of HIV services.

Conclusions: Initial success has been achieved in a number of the ART decentralized sites with scale up of HIV service provision and enhanced staff/skacapacity in Myanmar. Continuous efforts are required to further strengthen planning, coordination, partnerships, monitoring and supervision, and expand key services for HIV identification, ART initiation, retention and virologic suppression for all people in need.

WEPEE627
HUMAN RESOURCE FOR MANAGEMENT OF HIV/AIDS: A REVIEW OF NURSE-INITIATED AND MANAGED ANTI-RETROVIRAL THERAPY (NIMART) IN PRIMARY HEALTH CENTERS (PHC) IN AKWA IBOM STATE, NIGERIA

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Background: The provision of antiretroviral treatment in Akwa Ibom is mainly offered in secondary facilities with physicians providing ART management. However, the paucity of physicians as well as skewed distribution of healthcare workers towards urban areas resulted in rural areas being underserved. This has restricted access to ART treatment in some parts of the state. In line with the task shifting...
strategy to increase access to high quality HIV/AIDS services, NIMART was introduced at Akawa Born to increase access to ART services in primary health centers (PHC) in the state.

**Description:** Nurses in existing PHC already offering PMTCT services were trained in ART management. The PHCs were upgraded structurally with the provision of service points, laboratory equipment, consumables, data management tools and commodities. Continuous quality improvement activities were provided by Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) and Ministry of Health Clinicians to ensure conformity with the national guidelines on ART. Prompt referrals for specialized care where necessary were ensured in the NIMART PHCs.

**Lessons learned:** The 9 SIDHAS supported NIMART sites commenced ART management in June 2014 with 14 clients placed on treatment. This progressively increased to 3236 clients by November 2015. Quarterly Data Quality Assessment conducted in June 2014 - November 2015 showed comparably the data quality in NIMART site as 85%, and Secondary health facilities at 89%. Also, retention rates across NIMART health facilities ranged from 50 - 78% compared to Secondary health facilities ranging from 55 - 80%. Findings also showed that management of HIV/AIDS can be implemented at PHCs by Nurses and lower cadre of staff when properly mentored and supported, however documentation of HIV services was reported as voluminous.

**Conclusions/Next steps:** Implementing agencies to ensure existing ART training manuals are modified to fit the need of nurses and other cadre of staff in the PHCs. Documentation of ART services in the PHCs to be further simplified to ensure staff workload is manageable. Continuous mentorship and quality improvement in the PHCs should be maintained to ensure outcomes of ART management in the PHCs remain comparable to higher levels of healthcare.

**WEPEE628**

**THE HIV DIAGNOSTIC ASSISTANT: PRELIMINARY FINDINGS FROM A NOVEL HIV TESTING CADRE**

K. Simon1,2, R. Flick1,3,4, S. Ahmed1,2, K. Namachapa5, M. Harawa1, J. Mhango1, Presenting author email: harawafm@gmail.com

**Background:** New strategies for HIV testing and counselling (HTC) are needed to meet UNAIDS’ 90-90-90 targets. One strategy being piloted in Malawi is the HIV diagnostic assistant (HDA) cadre. Previously, health workers were trained to provide HTC, but maintained additional responsibilities. In contrast, HDAs are tasked almost exclusively with HIV testing. In this observational study, we describe the early impact of HDA deployment.

**Methods:** Thirteen health facilities in one district of Malawi’s Southeast Zone deployed HDAs in July 2015. We used routine data to assess number of HIV tests done per month pre-post HDA deployment. Thirteen controls in the Southeast Zone were matched to treatment sites according to mean level and rate of change in pre-intervention (Oct 2013-Jun 2015) monthly HIV tests, with control sites paired at p<0.10 to minimize bias. Multiple-group interrupted time series analysis was conducted on the aggregated number of HIV tests done at treatment and control sites to compare pre-post trends.

**Results:** Treatment and control groups were similar at baseline (Table 1). We detected a monthly increase in the pre-post monthly HIV tests trend compared to the change observed in controls (+653 tests/month, p=0.104, Figure 1). Post-intervention, treatment sites recorded more HIV tests (4,528 vs 3,367, p=0.0657) and a higher rate of increase in monthly HIV testing (593.4 vs -71.5, p=0.2031) compared to controls.

**Conclusions:** Following HDA deployment there was a trend towards an increase in pre-post HIV monthly testing relative to control sites. However, the small number of post-intervention observations limits the significance of our findings. Further analysis is needed as data becomes available to better ascertain the magnitude and durability of the effect.

**HUMAN RESOURCES DEVELOPMENT FOR A MULTI-SECTORAL RESPONSE**

**WEPEE629**

**THE GAIA SCHOLARSHIP PROGRAM: ENFORCING HEALTH WORKER PUBLIC SERVICE COMMITMENTS TO INCREASE HUMAN RESOURCES FOR HEALTH AND IMPROVE ACCESS TO QUALITY HEALTH CARE IN MALAWI**

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1Global AIDS Interfaith Alliance, Limbe, Malawi, 2Global AIDS Interfaith Alliance (GAIA), San Rafael, United States, 3University of California, San Francisco, United States

**Background:** To achieve Sustainable Development Goal (SDG) 3, good health and well-being, and the UNAIDS 90-90-90 targets, it is necessary to build stable, fully-staffed health care systems that provide universal access to and equity in essential health services. In Malawi, a country where the public sector nursing vacancy rate is 65%, every nurse graduated and retained in the public sector is a vital human resource.

**Description:** For the past decade, in collaboration with the Malawi Ministry of Health, and since 2010 with funding from USAID, The Global AIDS Interfaith Alliance (GAIA) Nursing Scholarship Program has worked towards:

1. increasing the number of nurses graduating from Malawian nursing institutions and 2. increasing the number of nurses employed and retained in Malawi’s public health sector. By providing scholarships comprising tuition, stipends, material and psychosocial support, GAIA has supported 485 Malawian nursing students, primarily orphaned young women, who have agreed to a public sector service commitment of four to five years post-graduation.

**Lessons learned:** By the end of 2015, 239 scholars had graduated (96% graduation rate) of which 194 have attained licensure (98% licensing rate) and 45 are preparing for licensure exams. One third of all GAIA scholar graduates have been sponsored by the public sector to upgrade their degree post-graduation. One hundred and twenty-two scholars, monitored at public health facility deployments biannually post-graduation, have completed their public sector service commitment (95% completion rate). Moreover, 81% (29/36) of those who have completed at least three years of work post-commitment have been retained in the public sector. Of the 16 scholars no longer working in the public sector post-commitment, 14 continue to work as nurses within Malawi at private health centers or NGOs. Two have been lost to follow-up.

**Table 1. Pre-post number and rate of change in monthly HIV tests**

<table>
<thead>
<tr>
<th>Pre-intervention</th>
<th>Treatment</th>
<th>Control</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HIV tests done per month—mean</td>
<td>2,735</td>
<td>2,703</td>
<td>0.4221</td>
</tr>
<tr>
<td>Monthly rate of change of HIV tests done—mean</td>
<td>41.6</td>
<td>28.7</td>
<td>0.5380</td>
</tr>
</tbody>
</table>

**Post-intervention**

| Number of HIV tests done per month—mean | 4,528 | 3,367 | 0.0657 |
| Monthly rate of change of HIV tests done—mean | 593.4 | -71.5 | 0.2031 |
WEPE6630
SCALING ACCESS TO FAMILY FOCUSED ANC/PMTCT B+ SERVICES VIA TASK-SHARING TO PRIVATE SECTOR NURSES AND MIDWIVES: ADVANCING POLICY AND ACTUALIZING COMMUNITY-BASED PRACTICE TO DELIVER AN AIDS-FREE GENERATION

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Background: Nurses and midwives are often available in rural and underserved areas where prescribing physicians are lacking. However, they often have limited formal authority to prescribe and deliver antiretroviral therapy (ART). The USAID-funded SHOPS project implemented a two year policy and practice intervention enabling Tanzania’s nurses and midwives to prescribe and deliver the full spectrum of PMTCT and ART services.

Description: At the national level, SHOPS supported the Tanzanian Nursing and Midwifery Council (TNMC) to develop the country’s first scope of practice (SOP) for nurses and midwives. The project then implemented the SOP’s expanded prescribing and task-sharing authorities for PMTCT/ART by integrating family-focused PMTCT and maternal ART services at 53 community-based facilities affiliated with the Private Nurses and Midwives Association of Tanzania (PRINMAT). During just the first nine months of service implementation (June 2014 through Feb 2015) PRINMAT facilities provided HIV testing to a total of 18,942 men and women as part of integrated ANC/PMTCT B+ services. The facilities also progressively increased the number of HIV positive pregnant women and HIV exposed infants accessing integrated care via PRINMAT’s private sector network.

Lessons learned: Despite early challenges in routinely accessing PMTCT commodities, the project empowered nurses and midwives to play a much stronger and formal role in Tanzania’s AIDS response. Community-level implementation further established within the public health system, which provides secure employment and opportunities to advance academic qualifications.

Service Indicator

<table>
<thead>
<tr>
<th>Service Indicator</th>
<th>June 2014 through March 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td># of HTS provided to pregnant women</td>
<td>7,017</td>
</tr>
<tr>
<td># of individual HIV Testing Services (HTS) provided</td>
<td>18,942</td>
</tr>
<tr>
<td>Increase in provision of HTS from baseline</td>
<td>Nine fold increase (from 227 HTS/month to 2,105/month)</td>
</tr>
<tr>
<td>Pregnant HIV+ women enrolled on ART</td>
<td>317</td>
</tr>
<tr>
<td>Number of HIV+ deliveries</td>
<td>157</td>
</tr>
<tr>
<td>Increase in number of HIV+ deliveries receiving PMTCT intervention via PRINMAT</td>
<td>5.6 fold increase (from 3/month to 27/month)</td>
</tr>
<tr>
<td>Number of HIV exposed infants initiated on short course NVP</td>
<td>130</td>
</tr>
<tr>
<td># of HIV exposed infants provided with early infant diagnosis (EID)</td>
<td>47</td>
</tr>
<tr>
<td># of HIV exposed infants testing negative 6 weeks mark postnatal</td>
<td>42 (89.3%)</td>
</tr>
</tbody>
</table>

Outcomes of PRINMAT Integrated ANC/PMTCT B+ Service Delivery:

Conclusions/Next steps: Programs that emphasize and enforce public sector service post-graduation can be successful in ensuring nurses remain working where needed most. The service commitment affords nurses the opportunity to become established within the public health system, which provides secure employment and opportunities to advance academic qualifications.

WEPE6631
HIGH LEVELS OF SELF-REPORTED PERSONAL ACCOMPLISHMENT AMONGST THREE CADRES OF HEALTHCARE WORKERS: BASELINE FINDINGS FROM THE FIRST ROUND OF THE HPTN 071 (POPART) STIGMA ANCLELLARY STUDY

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2London School of Hygiene and Tropical Medicine, Department of Global Health and Development, London, United Kingdom
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Background: There is increased recognition of the impact of work stress and burnout on healthcare workers (HCWs) in low and middle income countries with a high burden of disease and limited resources. HPTN 071 (PopART) is a cluster-randomised trial evaluating the impact of a multi-component intervention, including universal access to ART, on HIV incidence. This ancillary study examined levels of HIV-related stigma and job stress among HCWs, and included an open cohort of HCWs involved in implementing the PopART intervention. We describe self-reported job stress amongst three cadres of HCWs in Zambia and South Africa at baseline (entourage into the cohort).

Methods: Three types of HCWs participated: (a) facility-based worker, (b) community-based care worker, and (c) Community HIV-Care Providers (CHPs - employed to deliver the community-based PopART intervention). The former two categories of workers were government employees while CHIPS were employed by the study. All workers were invited to participate. The questionnaire was self-administered using electronic data capture devices. Job stress is assessed using the Maslach Burnout Inventory (adapted for language competency) which groups items into three domains:

1) emotional exhaustion
2) depersonalisation (in attitudes toward clients) and
3) personal accomplishment. Items are displayed in English with translations available on the device or from the research assistant.

Results: Of 2818 eligible HCWs, 66.5% participated at baseline, a total of 1,875 HCWs (Zambia = 1,244, South Africa = 631) 300 also reported living with HIV. Self-reported levels of personal accomplishment are uniformly high, (82% in Zambia; 77% in South Africa). Low levels of job stress are reported across job cadres in both countries. Moderate to high levels of emotional exhaustion were reported by 37% of HCWs in Zambia and 33% of HCWs in South Africa. Moderate to high levels of depersonalisation were reported by 10% of Zambian HCWs and 15% of South African HCWs.

Conclusions: The high levels of personal accomplishment reported by HCWs’s may build resilience and offer a protective effect from burnout. The surprisingly low levels of job stress in these high burden contexts is encouraging. Additional research is needed to understand how HCWs perceived accomplishments impact quality of care and service delivery.

WEPE6632
BURNOUT AND SELF-REPORTED PATIENT CARE AMONGST HEALTHCARE WORKERS PROVIDING HIV CARE IN MALAWI

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Background: Since 2002 there has been a > 100-fold increase in the number of persons accessing antiretroviral treatment, without a concomitant increase in health-care workers (HCW) providing HIV care. Burnout is a syndrome of emotional exhaustion (EE), depersonalization (DP), and a sense of low personal accomplishment (PA). Burnout amongst HCWs may have a negative impact on services. The aim of this study was to determine the prevalence of burnout amongst HCWs in Malawi and explore its relationship to self-reported patient care practices.

Methods: Cross-sectional study amongst HCWs providing HIV care in 66 facilities, across 6 high HIV prevalence districts in southeastern Malawi. Burnout was mea-
sured using the Maslach Burnout Inventory and defined as scores in the mid-high range on the EE or DP subscales. Nine questions developed for this study assessed self-reported patient care. Surveys were administered anonymously. Data was summarized by descriptive statistics (mean, SD, frequency). Chi-square test was used to test the association between burnout and any self-reported suboptimal patient care practices.

Results: Among 292 HCWs (mean (SD) age 33 (10) years, 57% female, 56% married) 56% met criterion for burnout. In the three dimensions of burnout, 47% reported moderate-high EE, 28% moderate-high DP. Participants reported several suboptimal patient care practices including making mistakes in treatment not due to lack of knowledge/experience (51%), shouting at patients (41%), and not performing diagnostic tests due to a desire to finish up quickly (34%). Compared with non-burned-out HCWs burned-out HCWs were significantly more likely to self-report any suboptimal patient care practice (93% vs. 81%; P=0.001).

Conclusion: Burnout was common among HCWs providing HIV care and was associated with self-reported suboptimal patient care. Additional research is needed to identify factors that contribute to or protect against burnout to inform the development of strategies to reduce burnout.

NOVEL EMPIRICAL APPROACHES TO EVALUATE THE IMPACT OF HIV PROGRAMMES AND POLICIES, INCLUDING REGRESSION DISCONTINUITY AND OTHER NON-EXPERIMENTAL APPROACHES

WEPEE633

SAMPLING DESIGN ALTERNATIVES IN POPULATION-BASED SURVEY FOR HIV PROGRAMMING

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Background: Household surveys based on census sampling frame are a standard practice in conducting surveys. However cost of their fieldwork is too high for many organisations and programmes relying on surveys for programmes management. This makes achieving more results with less resources difficult hence the need for alternative approaches. This study establishes if alternative approach (mapped public places sampling frame) can provide comparable results to that of household survey for circumcision study.

Methods: Two quantitative cross-sectional studies were conducted simultaneously on the same locations using the same questionnaire. However the study participants were sampled using two different approaches. The first approach was the use of Census sampling frame. The second sampling approach used mapped public places as a sampling frame for respondents. Inclusion criterion were males aged 15 to 49 years randomly selected and agreeing to participate in the study through an informed consent process. Binary logistics regression was used to establish factors influencing uptake of circumcision (alpha set at 0.05).

Results: The age distribution of the two samples were significantly different from each other, p<0.001. The proportion of men circumcised was not significantly different between the samples at 22% and 23% from household and public places samples respectively. Logistic regression table below show consistent odds ratios though with discorances.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Household OR</th>
<th>Public Places OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service access knowledge</td>
<td>3.106</td>
<td>3.488</td>
</tr>
<tr>
<td>Penis appearance</td>
<td>3.105</td>
<td>3.093</td>
</tr>
<tr>
<td>Educational (Tertiary / No Tertiary)</td>
<td>2.17</td>
<td>*</td>
</tr>
<tr>
<td>Eligibility knowledge</td>
<td>1.967</td>
<td>*</td>
</tr>
<tr>
<td>Excessive bleeding fear</td>
<td>1.775</td>
<td>1.901</td>
</tr>
<tr>
<td>Penis hygiene</td>
<td>1.661</td>
<td>*</td>
</tr>
<tr>
<td>Believe pain during procedure</td>
<td>0.325</td>
<td>0.39</td>
</tr>
<tr>
<td>Believe pain AFTER procedure</td>
<td>*</td>
<td>0.332</td>
</tr>
<tr>
<td>Risk death</td>
<td>0.224</td>
<td>*</td>
</tr>
<tr>
<td>Constant</td>
<td>0.04</td>
<td>0.13</td>
</tr>
</tbody>
</table>

*not significant

[Odds Ratio of being circumcised by sample group]

Conclusion: Mapped public places sampling frames can be used for estimation, however, care should be taken to ensure that age groups and other demographics of interest are controlled for during sampling.

USE OF IMPLEMENTATION RESEARCH TO SUPPORT THE EVIDENCE-BASED RESPONSE TO HIV

WEPEE634

A HOME-BASED REHABILITATION INTERVENTION FOR ADULTS LIVING WITH HIV AND DISABILITY: A RANDOMIZED CONTROLLED TRIAL

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Background: South Africa has the highest number of people living with HIV (PLHIV) globally. With an increased uptake of ART, PLHIV are living longer lives but this is accompanied by an increased risk of disabilities. Effective management of disability requires rehabilitation interventions. Rehabilitation professionals are in short supply in South Africa’s public sector, which makes it challenging to deliver rehabilitative care close to patients’ homes. There is a dearth of literature related to home-based rehabilitation (HBR) interventions for PLHIV in South Africa.

Methods: A single blind randomised controlled trial was conducted in a public health care setting in KwaZulu-Natal. Adult participants on ART for more than six months, who were identified with mobility-related challenges, were recruited. A total of 76 participants were allocated to either the intervention or control group. The intervention group received weekly rehabilitation in their homes for 16 weeks, provided by home-based care workers, trained and supervised by a qualified physiotherapist. Participants in the control group received the standard of care as well as written advice on healthy living. Pre and post intervention testing assessed disability (WHODAS 2.0), quality of life (WHOQOL-HIV BREF), functional mobility (Rivermead Mobility Index) and functional capacity (6 Minute Walk Test).

Results: Participants in the HBR intervention group improved in overall quality of life as well as the physical quality of life domain (p<0.05). WHODAS 2.0 scores showed improvements in perceived disability for both study groups. No significant improvements were recorded with the Rivermead Mobility Index, while both groups improved significantly in the total distance walked in the 6 Minute Walk Test (p<0.05). Although the participants in the intervention group improved more than the participants in the control group across all four outcome measures, between-group differences were non-significant.

Conclusions: HBR for PLHIV is a safe means of addressing the functional deficits experienced by this population and appears to improve their quality of life. It was of further interest to note the improvements in the control group who received health information only. This task-shifting approach is a feasible method of addressing disability, however the impact of such interventions needs to be tested on a larger scale.
WEPEE635
ASSESSING INDIVIDUAL AND DISSEMINATED EFFECTS OF A NETWORK INTERVENTION FOR HIV PREVENTION
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Background: In network-randomized trials, some group members randomized to an intervention receive the intervention directly while others receive it indirectly if at all. The individual effect is that among directly treated participants; the disseminated effect is that among participants in the same network as those directly treated. Estimation of crude effects (i.e., average treatment effect compared among all study participants) and composite effects (i.e., sum of the separate individual and spillover effects) is of interest.

Methods: We developed new statistical models for point and interval estimation of individual, disseminated and composite effects in studies with a network feature. We proved that the average effect is less than or equal to the composite effect. Even when the networks are randomized to the intervention, the validity of some of these quantities of interest do not benefit from randomization, and we developed causal inference methods for estimating these quantities. We estimated individual and disseminated effects in HPTN037, a Phase III network-randomized HIV prevention trial among injection drug users and their network members. The index participant in a treated network received a repeated educational intervention. Log-binomial models were used to estimate relative risks and 95% confidence intervals (CIs), accounting for correlations using a robust variance. The specific risk behavior was shared cotton (an indicator of sharing needle/syringe "works").

Results: HPTN037 included 515 participants, of whom 48% were in treated networks and 52% were in control networks. There was a 44% reduction in risk (95% CI = 0.37, 0.86) for "sharing works" (crude effect), while the adjusted composite effect was more strongly protective (adjusted rate ratio (aRR)= 0.37, 95% CI = 0.19, 0.75). The individual effect trended towards protection (aRR=0.70, 95% CI = 0.33, 1.47), while the disseminated effect among non-treated network members in the intervention arm compared to control was significantly protective (aRR=0.62, 95% CI = 0.40, 0.95).

Conclusions: This analysis highlights the utility of these novel methods to quantify the complex information available in network-based interventions. These new methods will improve best preventative practices among people who inject drugs and their risk networks by leveraging network-based effects.

WEPEE636
THE ROLE AND IMPACT OF DATA QUALITY IN IMPLEMENTATION SCIENCE RESEARCH: EXAMPLE FROM AN ASSESSMENT OF PMTCT SERVICES IN CÔTE D’IVOIRE
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Background: Implementation science aims to understand and improve health care delivery systems in context. However, intervention identification and impact assessment can be hampered by poor data quality of health information systems. This paper discusses the role and impact of poor data quality on conducting implementation science research in the context of a national assessment and intervention project on PMTCT in Côte d’Ivoire.

Methods: We randomly selected a cross-sectional sample of 30 Ivorian health facilities providing PMTCT services. At each site we retrospectively assessed all available primary data sources for eight PMTCT-related indicators for the period June 2011–May 2012 to determine data completeness. We also compared on-site data with data reported in the national PMTCT database to identify the degree of concordance between site-based data and nationally reported data. Finally, we compared data from different data sources including patient charts to identify incongruence between sources and to identify potential areas for data quality improvement.

Results: Across the 30 site sample, 2,628 of 2,880 data elements (91.25%) were available on site at least one of 18 different official and unofficial data sources. Of 240 values compared between on-site data and nationally reported data, 97 (40%) were concordant, 69 (29%) were discordant with lower values reported at the facility level, and 74 (31%) were discordant with lower values reported at the national level. We also found incongruent data when comparing registry data with data on the availability of and representative of patients charts.

Conclusions: Data quality issues suggest that facility staff, health directors, and national policy makers may be misinformed regarding performance at all levels of the PMTCT cascade. Implementation science research aiming to improve service delivery should:
1) review data for completeness, concordance, consistency and representativeness to create a more informed overall picture of service bottlenecks;
2) data quality concerns that illuminate systemic weaknesses in the intervention phase and address these as part of the intervention.
These two recommendations will help improve reliability of the measurement of impact of the intervention while improving data quality as part of the overall health system.

WEPEE637
CAUSAL EFFECTS OF TIME TO ART INITIATION ON THE SURVIVAL OF HIV-INFECTED PATIENTS IN A REGIONAL REFERRAL HOSPITAL IN WESTERN KENYA, 2011-2014
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Background: Estimating causal inferences in observational studies with time varying covariates require methods that can address complexities such as non-random allocation of patients’ to treatment groups, possible censoring of, exposure variables e.g., time to antiretroviral therapy (ART) initiation, and outcome variables e.g., mortality. We set out to evaluate the causal effects of time to ART initiation on the survival of human immunodeficiency (HIV) infected patients in a longitudinal observational study.

Methods: We conducted a retrospective review of patient records of HIV-infected adults’ aged<51 years enrolled between January 2011 and December 2013 at Jaramogi Oginga Odinga Teaching and Referral Hospital, Kenya. ART was initiated as per the WHO 2010 ART guidelines. Time to ART initiation was defined as time from the earliest date of ART eligibility to date of ART initiation and patients were categorized as ‘early-initiators’ (ART initiation within 12 weeks of eligibility) or ‘late-initiators’ (ART initiated after). Occurrence rate of death was computed as the number of deaths per 100 person-years of follow-up in each group (early/initiators). The hazard of death among early-initiators versus late-initiators was computed using unadjusted Cox proportional hazards (Cox-PH) model, adjusted Cox-PH model (adjusting for age, gender, CD4 category, WHO stage, education level, marital status, and weight) and marginal structural Cox-PH model.

Results: Of 786 patients enrolled; 606 (77%) were ART-eligible. Of 444 (73%) patients with documented time to ART initiation, 41 (9%) were late-initiators. With 3 deaths and 9.2 person-years of follow-up; 31 deaths and 115.8 person-years of follow-up; the occurrence rate of death was 33 and 27 per 100 person-years among late-initiators compared to early-initiators respectively. Compared to early-initiators, the hazard of dying among late-initiators computed using unadjusted Cox-PH model, adjusted Cox-PH model and marginal structural Cox-PH model was 1.6 (95% CI 0.5-5.4) and 1.9 (95% CI 0.5-6.7) and 3.2 (95% CI 1.7-6.4) respectively.

Conclusions: Marginal structural Cox-PH model, adjusting for and assuming no unmeasured confounders, revealed that delay in time to ART initiation increases the hazard for death. Clinical longitudinal observational studies should employ appropriate models in estimating treatment effects for accurate conclusions.

WEPEE638
FACTORS ASSOCIATED WITH RETENTION OF HIV EXPOSED CHILDREN AT 18 MONTHS: A LONGITUDINAL COHORT STUDY, MAHARASHTRA, INDIA
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Background: As per the National guidelines in India, all HIV positive pregnant women are initiated on lifelong ART irrespective of CD4 count or WHO clinical staging. During postnatal period, HIV exposed babies are followed up for early infant diagnosis (EID) starting at 6 weeks of age, aiming to the final antibody testing at 18 months of age. Minimizing loss to follow up among HIV positive pregnant women

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and their infants in the postnatal period is crucial to ensure elimination. To ensure retention at every step of the PMTCT service, a line list of HIV positive pregnant women was developed in Maharashtra province in India. To understand the gaps in the cascade, the cohort data form the line list of HIV positive mothers and their babies from 2008-2013 were analysed. The objective of this study is to identify the possible socio-demographic characteristics and other factors associated with retention in care of HIV exposed children at the age of 18 months.

Description: Data on 10,697 HIV positive mothers from 2008-2014 were analysed. Retention in care at 18 months of age was determined by assessing whether the child was followed up until the age of 18 months for antibody testing. If a child was tested or confirmed to have died before the age of 18 months, it was considered to be in care, otherwise it was considered as lost to follow up (LTFU). Logistic regression analyses were performed to assess factors associated with retention in care at 18 months.

Lessons learned: Out of 10697 live births to HIV positive women, 77% children were either tested at 18 months or confirmed to have died, and 22% were LTFU. Children with HIV negative fathers were 25% more likely to be LTFU (AOR=1.24, 95% CI=1.1-1.4), whereas children whose father’s HIV status was not known were 74% more likely to be LTFU (AOR=1.74, 95% CI=1.49-2.03), compared to children who had HIV positive fathers.

Conclusions/Next steps: Findings highlight the need to closely monitor the children of sero-discordant couples to ensure regular follow up and higher retention at 18 months of age. Couple counselling and disclosure need to be encouraged by the program.

WEPEE639 USING COMPUTER SIMULATION TO OPTIMIZE DESIGN OF A MULTILEVEL HIV INTERVENTION: A CROSS-DISCIPLINARY EXPERIMENT

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Background: Multilevel interventions (for example, including both treatment and prevention goals at individual, group and community levels) are instrumental in efforts to end the HIV pandemic. However, multilevel interventions may be composed of a number of constituent interventions or risk targets, and it is unclear which ones should be included. Our objective was to apply a quantitative optimization approach to inform multilevel intervention trials targeting alcohol-using HIV patients on ART in India.

Methods: We developed, parameterized and calibrated a simulation of HIV disease progression and transmission to estimate the effect of one or more single focus interventions on HIV infections averted, costs, and quality-adjusted life expectancy (QALY). Input data came from an extensive literature review and analyses of Maharashtra state level HIV patient data collected from 2007 - 2014 (n=23,701). We included 15 unique constituent interventions defined by target, level and duration, which could be combined into 32,768 possible configurations of the multilevel intervention. To identify the optimal configurations, we estimated 20-year clinical and economic outcomes and compared their value (S/QALY) using three criteria: greatest health benefit given budget constraints, greatest health benefit for the money (not considering budget constraints), and consideration of the extent to which additional research could enhance value for India.

Results: We found that 23% of the possible 32,768 configurations of a multilevel intervention were cost saving, and 27% offered favorable value (< $15,000/QALY based on WHO standards). Given budget constraints, the optimal multi-level intervention would have constituents including individual alcohol counseling, individual text-message support and group counseling for sex-risk. Not considering budget constraints, the optimal multi-level intervention would have constituents including individual alcohol counseling, individual text-message support, group counseling for sex-risk, individual counseling for sex-risk and community level sex-risk intervention. Explicitly considering the value of additional research, the top intervention for the trial would be individual depression counseling alone.

Conclusions: This study was the first to use operations research methods to inform how to constitute a multilevel intervention with a vast array of possible constituents. Using simulations to predict the best investment for clinical trials can be extended to broader HIV epidemics or other clinical settings.
Lessons learned: Since 2011, in collaboration with its partners, OPHID has led the registration and completion of 6 study protocols; conducted over 10 targeted program assessments and presented more than 30 abstracts at national, regional, and international AIDS conferences. Research and evaluation findings have contributed to national program and policy approaches; development and testing of new interventions to increase demand, uptake and retention; identification of bottlenecks and real-time corrections in Zimbabwe’s HIV Care and Treatment Program. Challenges to local capacity building in implementation research include effective use of theoretical frameworks, ‘resource-rigor’ compromises in design and data management, publication of findings and supporting active involvement of academic and MOHCC collaborators within resource-constrained program contexts.

Conclusions/Next steps: OPHID’s integrator-based approach to implementation research has proved a low process model for the generation of pragmatic evidence in Zimbabwe’s HIV Care and Treatment Program. Investment in local implementation research capacity, particularly within MOHCC structures, should be prioritized for sustainable and context-relevant evidence generation on HIV programs.

DATA SYSTEMS TO SUPPORT HIV PREVENTION AND CARE

WEPEE642
ENHANCING SYSTEMS FOR MONITORING AND EVALUATION OF OPTION B+ REGIMEN FOR PMTCT: RWANDA EXPERIENCE IN RETROSPECTIVE COHORT MONITORING

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Background: In order to cost-effectively monitor implementation of option B+ and measure MTCT rate by 18 months, routine PMTCT data for HIV infected mothers and exposed infants was collected using longitudinal registers. Data from a three month retrospective cohort of HIV exposed children born 18 months prior to the survey was analyzed to determine MTCT rate.

Description: The purpose of the Programme is to determine the final status of HIV exposed infants and the impact of option B+ in reducing MTCT rate. Longitudinal registers were designed to monitor HIV infected mother-infant pairs enrolled in PMTCT facilities using unique identification numbers: The ANC and ART number of registers were designed to monitor HIV infected mother-infant pairs enrolled in PMTCT facilities. The data from the three month cohort of mother-infant pairs enrolled between September-November 2013 were analyzed by the study team.

Conclusions/Next steps: The low MTCT rate is an indication that Rwanda is close to eliminating MTCT. Use of longitudinal registers and retrospective cohort analysis is a cost-effective method of monitoring option B+ implementation and in determining MTCT rate and other outcomes. Results from other ongoing studies on HIV exposed infants will show the determinants of HIV transmission, loss to follow up and deaths.

WEPEE643
UTILIZATION OF MULTIPLE STRATEGIC INFORMATION TO INFORM PROGRAM BARRIERS TOWARDS THE “ENDING AIDS BY 2020” IN BANGKOK, THAILAND

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Background: Thailand commits to launch the 2014 Paris Declaration on Fast-Track Cities Initiative in Bangkok through achieving the 90-90-90 targets by 2020, 90% of persons living with HIV (PLHIV) knowing their status, 90% of PLHIV who know their status on antiretroviral therapy (ART), and 90% of those on ART virologically suppressed. To address the intervention status, multiple strategic information (SI) were analyzed.

Description: SI sources were (1) AIDS Epidemic Model (AEM), updated in 2015, estimating number of PLHIV and new infections; (2) Community-based Integrated Bio-Behavioral Surveillance (IIBBS) using time-location-sampling among men having sex with men (MSM), biennially implemented during 2007-2014, reporting the percentage of MSM reached by outreach interventions and receipt of HIV counseling and testing (HCT); and (3) Patient program monitoring (NAP), reported by 63 ART sites in Bangkok, describing the Test-Treat-Retain cascade among PLHIV and MSM newly HIV+ diagnosed during 2008-2014. The results were synthesized to identify areas for intensified responses.

Lessons learned: AEM outputs revealed estimated 72,591 PLHIV in 2014 with 2,000 annual new infections. MSM was the major driver for HIV epidemic. The IIBBS indicated constant trend of MSM reached by outreach interventions (35.2%-53.3%) during 2007-2014, and substantially declining in receiving HCT with knowing HIV test result from 52% in 2007 to 28% in 2014, p < .05. Using NAP and AEM outputs, the Test-Treat-Retain cascade among PLHIV and MSM newly HIV+ diagnosed during 2008-2014. The results were synthesized to identify areas for intensified responses.

Conclusions/Next steps: To achieve the 90-90-90 targets in Bangkok remains challenging. Intensified community outreach is urgently needed to increase recruitment of MSM for prevention and HCT. Assessing the barriers limiting referral and access to ART services, especially among MSM should be considered. Effective quality ART services to improve ART retention are essential.
**WEPEE644**

**Development of a new resource for HIV and hepatitis C drug therapy/drug interactions**

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**Background:** Antiretrovirals (ARVs) and directly acting antivirals (DAAs) for hepatitis C (HCV) continue to be developed and marketed at a rapid pace. There is a high potential for drug interactions with these medications, particularly in patients with high rates of comorbidities and polypharmacy. Existing tools for the management of drug interactions are specific to either HIV or HCV, and often lack in offering a holistic approach to patient care.

**Methods:** The application development team consists of 3 specialized pharmacists, two computer programmers/developers and a medical interface designer. Key elements for the application design included an intuitive, multiplicity search engine allowing for rapid access of scientific information on drug-drug interactions, as well as a function proposing alternatives to treatments. A drug database was developed from existing, internationally recognized drug interaction websites (www.hivclinic.ca and www.hcvdruginfo.ca).

**Results:** The web application includes information on 45 HIV and HCV licensed and investigational drugs and allows for interaction searches with over 500 other commonly prescribed drugs. The database is regularly updated to include the latest publications and presentations from major HIV and HCV scientific conferences, and currently includes interaction information over 15,000 unique drug combinations. The application is available on the HIV & HCV websites, which receive over 2000 separate visits per month. A free mobile application, with the potential to operate in absence of an internet connection, is available for download from the websites and from iTunes/Google Play stores in order to reach a vastly greater audience.

**Conclusions:** This web application consolidates ARV and DAA information from two established, internationally recognized drug therapy websites into a single program, and allows practitioners to quickly identify and manage significant drug interactions in HIV and/or HCV-infected patients.

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**WEPEE645**

**Discrepancies between ‘my address’, ‘where I live’, and ‘where you might find me’: Qualitative lessons for HIV data capture in expanding HIV clinic services to community-based services**

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**Background:** In South Africa, clients eligible for ART are entitled to receive care at any facility offering ART services. Across South Africa, such HIV-related health-services are expanding from facilities into communities. Accurate linkage of information across service-delivery platforms is important for:

1. Ensuring continuum of care,
2. Monitoring and evaluation to improve public health implementation, and
3. Identification of fraudulent addresses.

Electronic capture and linkage create the possibility of unified client records across the service delivery network. Such a system will be facilitated by accurate records of which health facilities’ clients visit and where clients might be reached by community-based services. We present a case study of a community where a door-to-door HIV service referral intervention (as part of HPTN 071 [PopART]) is implemented, to identify gaps in creating a client record system.

**Methods:** At the clinic, paper-based patient folders are routinely captured into the TIER.Net health information system. We conducted a qualitative review of folders of clients receiving ART at the clinic who were not reported as living with HIV by the door-to-door intervention team in the clinic’s catchment area. This was supplemented by 24 months of ethnographic observations and discussions. The clinic catchment area is an Afrikaans-speaking suburb of a farming/minor-industry town with government-built basic-housing developments and informal settlements around it.

**Results:** From the addresses in the patient folders (and our ethnography), we identified five conditions where clients were missed by door-to-door service delivery:

1. Short-term absences from home (often due to hospitalisation, temporary employment, and incarceration).
2. Cyclic absences, particularly migration to former ‘homelands’ and seasonal farm labour.
3. Clients providing an address in the catchment area because they stay there occasionally whilst actually living outside the catchment area.
4. Non-disclosure of HIV-status in homes leading to active avoidance of home-based HIV-related services.
5. Membership of multiple households within or outside the catchment area.

**Conclusions:** Client addresses are currently experienced as primarily an administrative detail and their value for ensuring quality care is not emphasized. In highly mobile or migrant places, greater emphasis should be placed on integrating accurate capture and linkage of not just a client ‘home’ address but also alternatives.

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**WEPEE646**

**Enhancing supply chain management of antiretroviral drugs in a resource-limited setting through web-based ordering system to increase their availability: A case of East Central Uganda**

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**Background:** Uganda is having problems getting the right type of medicines to the right place at the right time. When essential medications are out of stock especially in remote areas where there is no alternative solution, patients blame the health workers who have no control over the medicine supply chain. The Uganda National Minimum Health Care Package (UNMCHP) obliges the government to make essential drugs available to the population including (Anti Retro Viral drugs-ARVs) drugs for HIV/AIDS, TB, malaria and other infectious diseases. Because of those concerns, MoH replaced the use of hard copies of reports and orders with the web based ordering system an easy and quick way to place drug orders from the lowest level of care in the most remote and hard to reach area to the national warehouse so as to enhance the supply chain management of ARVs.

Under a USAID funded project “Strengthening TB and HIV/AIDS Response in East Central (STAR-EC) Uganda has since supported this system in the facilities to acquire ARVs.

**Description:** STAR-EC trained ART in charges and stores personnel in facilities offering ART in proper quantification and ordering of ARVs and with the help of Health Management Information System personnel, health facilities submit drug orders which are directly submitted to the national warehouse which in turn determines the needed quantities per facility and drugs are supplied on a bimonthly basis.

**Lessons learned:** There has been an improved reporting rate in all facilities under STAR-EC from 60% to 80% in a period of approximately 2 years since introduction of the system which is attributed to the fact that one does not have to incur costs of travelling from the furthest place to submit an order to the national supplier. There is improved efficiency in disseminating information from one place to another as well as reducing on time spent especially from facilities found in hard to reach areas.

**Conclusions/Next steps:** With improved use of technology and good internet connectivity, even the hard to reach areas can have an improved supply chain management system.

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**WEPEE647**

**Patient level tracking through an electronic database in resource-limited settings: Lessons learnt in implementation of an electronic database (EDB) in Zimbabwe**


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**Background:** The urgent need to monitor the HIV and AIDS epidemic of affected populations has required health information systems to go beyond its traditional capacities. Electronic patient-level databases (EDB) have emerged as promising tools. In September 2011, EGFPAF-Zimbabwe supported Ministry of Health and Child Care (MOHCC) to develop an EDB that collects prevention of mother-to-child HIV transmission ( PMTCT) longitudinal data for routine program monitoring, rapid assessments, and PMTCT outcome evaluation.

**Description:** The EDB was implemented in 36 public health facilities across five districts in three phases:

1. Five district hospitals - September 2011,
2. 13 facilities - March 2012 and
3. 18 facilities July 2012.

EGFPAF and MOHCC sourced iSOlutions, an open-source database supportable in-country with limited resources. The database was customized to include indicators from six MOHCC PMTCT registers. Facilities were selected based on patient volume
Achieving Real Time Quality and Efficiency Monitoring Through Electronic Data Sharing Architecture for National Population-Based Biomarker Surveys in Developing Countries: The Population-Based HIV Impact Assessments (PHIA) Project 2015-2017

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Background: With improvements in technology and increasing affordability, electronic data capture (EDC) is quickly replacing paper-based data collection (PDC) as a standard for large-scale surveys in developing countries. Electronic data can be efficiently processed and summarized, permitting timely identification of potential implementation challenges.

Description: ICAP at Columbia University is implementing the Population-based HIV Impact Assessment (PHIA) Project, a PEPFAR initiative funded through the Centers for Disease Control and Prevention to conduct population-based HIV biomarker surveys measuring national HIV incidence and subnational estimates for viral load suppression. The surveys involve questionnaires, and HIV and other point of care whole blood tests, including CD4, syphilis and hepatitis B. Additional tests, including viral load and HIV incidence testing, are conducted at laboratories. A data collection form was developed in Open Data Kit (ODK) and deployed on Android tablets to capture consents with electronic signatures, household and individual interviews, and specimen collections. Specimen transport and processing as well as QA/QC data are captured in laboratory databases. A data sharing architecture was developed to securely transmit the data in near real-time from the field teams and laboratories to a central data warehouse (Figure 1).

Figure 1: PHIA Data Architecture - Survey Collection Data Flow

Lessons learned: The PHIA Project started data collection in Zimbabwe and Malawi in late 2015. Overall, 10,199 interviews, 11,396 blood draws, and 17,169 specimen tubes have been collected to date. A survey monitoring dashboard that pulls data from questionnaire and laboratory data sources provides PHIA partners with daily updates that summarize response and recruitment rates by participant age group, survey team, and survey week as well as specimen quality indicators.

Conclusions/Next steps: The PHIA Project has demonstrated the need for EDC and a robust data sharing architecture that efficiently integrates data from multiple devices and users, for effective monitoring on quality and efficiency of the survey effort.

WEPEE649

Improving HIV Outcomes: Using Ryan White HIV/AIDS Program Client-Level Data to Target Interventions and Address Health Inequities in the United States

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Background: To address the HIV epidemic in the United States (U.S.), Congress passed legislation in 1990 for the Health Resources and Services Administration to implement the Ryan White HIV/AIDS Program (RWHAP), a comprehensive system of care that addresses the needs of low-income and vulnerable people living with HIV (PLWH). To monitor the program, its impact, and clients’ HIV-related outcomes, it was necessary for the RWHAP to establish a client-level data collection system.

Description: In 2010, the RWHAP fully implemented the “Ryan White Services Report” (RSR), a client-level data collection system that collects de-identified data from the nearly 2,000 RWHAP-funded sites across the U.S. In December 2015, the RWHAP published its inaugural client-level data report, featuring RSR data about the half-million clients served by the RWHAP during 2010-2014. The publication provided an in-depth look at the socio-demographic composition of clients (e.g., age, race/ethnicity, transmission risk, poverty level, health care coverage, housing status) and key HIV care indicators measuring the RWHAP’s progress toward the goals of the National HIV/AIDS Strategy for the U.S.

Lessons learned: Through the implementation of its RSR client-level data system, the RWHAP can better identify and understand health inequities and guide RWHAP investments and programmatic efforts to improve care, treatment, and health outcomes for PLWH. Key RSR client-level data, viral suppression among several key populations, including youth aged 15-24 (45.8% in 2010 to 64.3% in 2014); women (66.3% to 80.2%); men who have sex with men (71.9% to 82.8%); and transgender individuals (61.5% to 74.0%).

Conclusions/Next steps: Client-level health information management systems are important tools to inform policy, programmatic, and clinical decisions about HIV care by governmental agencies and non-governmental organizations. Making national RWHAP client-level data publically available allows stakeholders and partners to better target interventions and measure the effectiveness of these strategies for improving HIV-related outcomes.
USE OF BIG DATA TO ASSESS IMPACT OF HIV PREVENTION AND TREATMENT PROGRAMMES

WEPEE650
PROGRESS TO 90-90-90: A LONGITUDINAL ANALYSIS OF THE TANZANIAN NATIONAL TREATMENT CASCADE FROM 2006 TO 2014

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Background: In order to end HIV as a global health threat it is essential that countries analyse the development of their HIV treatment cascade over time and adapt their treatment programs to improve coverage and reduce attrition. In addition they need to identify whether any treatment progress is achieved or whether certain population sub-groups have sub-optimal, engagement with or retention in, care. This study provides such an analysis using routine data collected at clinics throughout Tanzania.

Methods: Repeated cross-sectional analyses were carried out annually of data collated in the Tanzanian national care and treatment centre (CTC) database. The study population was defined as all those with a visit to a CTC within 90 days of the mid-year cut off date.

Results: Over the period 2006 to 2014 the percentage of those who were engaged with CTC’s who were on treatment increased from 22.2% to 82.1%. The percentage of these successfully treated (WHO stage 1-3) increased from 65.2% to 82.1% over the same period. By 2014 44.4% of those on treatment had been so for more than 4 years. The sex ratio (female:male) for those on treatment increased from 1.7 in 2006 to 2.4 in 2014. From 2008 to 2012, the percentage of males aged 15-19 in care who were on treatment was significantly higher than for their female contemporaries. Otherwise similar trends were seen for all age and sex strata in the population. The median time between individuals first knowing their HIV status and starting treatment increased for all groups between 2007 and 2012 from 46 to 64 days and then decreased to 25 days by 2014. The decrease was greater for females than males.

Conclusions: These results demonstrate that considerable progress has been made since the introduction of ART in Tanzania. All sub-groups in the population have experienced these benefits. Of particular concern however is the evidence for an increasing female:male gender ratio amongst those on treatment which is only partially explained by the higher HIV prevalence for adult females (5.7%) compared to males (3.9%). Strategies to overcome barriers to care experienced by males are urgently indicated by these results.

WEPEE651
DATA FROM RECENTLY DEPLOYED ONLINE HEALTH SERVICES INFORMATION COLLECTION SYSTEM SHOWS MOTHER TO CHILD TRANSMISSION (MTCT) RATES OF HIV IN GHANA ARE HIGHER THAN PREVIOUSLY ESTIMATED

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Background: The rate of Mother-to-child transmission (MTCT) of HIV in Ghana is estimated using the Spectrum software, based on a mix of estimated variables. The national MTCT rates were 8.98% and 8.37% for 2012 and 2013, respectively. We hypothesized that replacing estimated variables in the Spectrum model with actual service data obtained through the digital health information systems (DHIS) platform, would yield more accurate and actionable national (and sub national) rates.

Methods: Data were analyzed using the DHIS reporting system. Best indicators of number of births, ANC registration, PMTCT testing, HIV prevalence among the pregnant population and ARV treatments during pregnancy were collected at the national and regional levels. MTCT was estimated using DHIS data as opposed to that generated with the Spectrum model.

Results: The resulting DHIS-estimated rates of HIV MTCT for 2012 and 2013 in Ghana were 24.8% and 24.2% respectively, significantly higher than estimates published in the 2014 national report. We observed large gaps across the PMTCT care cascade at both the regional and national levels (Figures 1A and 1B). Based on the projected total number of HIV infected women, only 33% were likely to have received ARV treatment during pregnancy, compared with the previously reported national estimate of 76%.

Conclusions: MTCT will continue to fuel the HIV epidemic in Ghana at the current performance level of its PMTCT program. Our findings demonstrate that DHIS platforms, which are already deployed in many resource-limited countries, are effective at providing valuable, low-cost, real-time information that can be used to shape policy at local, regional, and national levels. Based on this assessment, the Ghana National AIDS/STI Control Program (NACP) has embarked on remedial actions, including commodity and stock management, resource allocation based on district-specific disease burden, and national targeting of gaps in PMTCT services.

WEPEE652
CHARACTERISTICS OF CHILDREN ENTERING CARE AND AT ANTIRETROVIRAL THERAPY INITIATION IN THE CENTRAL AFRICA IeDEA COHORT, 2004-2013

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Background: Despite the World Health Organization (WHO) regularly updating guidelines to allow earlier initiation of antiretroviral therapy (ART) in children, the proportion of HIV-infected children initiating ART in sub-Saharan Africa lags behind adults. The impacts of implementing increasingly less conservative ART guidelines
on access to care and treatment initiation has not been described in Central Africa. We describe trend characteristics of children 0-12 years entering HIV care and initiating ART from 2004-2013 in Burundi, Democratic Republic of Congo, and Rwanda.

**Methods:** Data are from the Central Africa International Epidemiologic Databases to Evaluate AIDS (iDEA) pediatric cohort of all children (n=5508) entering care. Measures included CD4 count, WHO clinical stage, age, and weight-for-age z score (WAZ) using 2006 WHO standards, taken both at enrollment into HIV care and at ART initiation. Changes in the median or proportions of each measure by year of enrollment and at ART initiation were assessed to capture potential impacts of changing ART guidelines.

**Results:** Median age at care enrollment was 77.2 months (interquartile range [IQR]; 44.8, 110) in 2004-2005, decreasing progressively to 30.3 months (IQR 5.8, 86.6) in 2012+. The proportion of children ≥4 months increased from 12.7% in 2004-2005 to 45.7% in 2012+. Similar, though less pronounced trend was observed at ART initiation with median age decreasing from 83.0 months (IQR 49.8, 117) in 2004-2005 to 66.9 months (IQR 24.3, 115) in 2012+. The proportion of children 0-24 months at ART initiation also increased from 9.6% in 2004-2005 to 24.2% in 2012+.

### WEPEE654

**THE RELATION BETWEEN EFFECTIVENESS AND EFFICIENCY: ECONOMIC IMPACT OF SUBOPTIMAL PERFORMANCE IN HIV TREATMENT INITIATION AND VIRAL SUPPRESSION**

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**Background:** Over 70,000 individuals currently benefit from universal antiretroviral treatment (ART) in Mexico provided at MoH facilities. As in most low- and middle-income countries today, the financial constraints of the Mexican publicly funded system and the implementation of the new WHO guidelines of HIV treatment initiation threat the sustainability of the national treatment program. Facility-level performance data is one of the most promising tools to increase value-for-money in HIV spending and access to care for patients within the current budget constraint.

**Methods:** We analyzed the SALVAR database of the Mexican MoH to calculate three indicators of facility-level performance: percentage of patients who initiated ART with CD4>200 cell/mm3, percentage of patients in viral suppression (viral load <50 copies/mm3) and percentage of patients in viral suppression and CD4 recovery. The sample included 116 facilities and 4,831 patients who started treatment in 2012. We calculated total annual costs of antiretroviral drugs per patient and compared the cost per person-year along three stages in the continuum of care: cost per patient on treatment, cost per virally suppressed patient, and cost per virally suppressed and immunologically recovered. We estimated best-practice frontiers to assess heterogeneity in facility performance.

**Results:** In 2012, 49% of all new patients initiated ART with CD4>200 cell/mm3 (IC 95%: 47.4,52.3), and 77% were below the undetectable viral load threshold (IC 95%: 73.8,79.4). Average annual cost per patient treated was 4,137 USD, and this figure increased steadily along the treatment cascade: $3,210 per early initiated patient, $6,029 per virally suppressed patient and $9,329 per patient in viral suppression and CD4 recovery. The difference in costs between the least and the most expensive facility was 4.3 times the cost per treated patient, 11.6 times the cost per early initiated patient, 13.9 per virally suppressed patient and 11.4 per patient with viral suppression and CD4 recovery.

**Conclusions:** In Mexico, there is enormous potential for gains in health outcomes and costs efficiency due to early initiation and treatment effectiveness of HIV patients receiving ART. Our results advocate for the proper measurement of patient attrition to the treatment cascade and the prompt dissemination of public performance data.
**WEPEE655**

WILL LOW HIV RE-TEST RATES THREATEN THE MTCT ELIMINATION AGENDA? PROGRAMMATIC EVIDENCE FROM ZIMBABWE

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**Background:** Zimbabwe has an HIV prevalence of 16.1% among women in antenatal care and HIV is the leading cause of maternal death. Elimination of mother-to-child transmission (MTCT) of HIV in Zimbabwe (< 5%) will require effective identification and enhanced interventions among groups of HIV positive women at high risk of MTCT. National guidance recommends re-testing all women without confirmed HIV status every 3 months during pregnancy and breastfeeding. Our objective was to determine recorded rates of HIV re-testing in Zimbabwe’s PMTCT program.

**Description:** We utilised routinely collected aggregate data from 824 health care facilities offering PMTCT services in 6 Provinces of Zimbabwe. We descriptively analysed program data from September 2014 to December 2015 to determine HIV re-test rates among women accessing services along the PMTCT cascade. Chi square tests were used to determine significance of differences in proportion of women re-tested for HIV in PMTCT care setting.

**Lessons learned:** From Sept 2014-Dec 2015, among 245,816 women recorded in ANC, 6.7% (n=16,583) had a known positive HIV status and 6.4% (n=15,880) tested positive. Overall, 115,730 re-tests were recorded in ANC. Compared to number identified as eligible for re-testing, documented re-tests in Labour and Delivery were high (97.4%) while re-test rate in postnatal care was low (54.8%), a highly significant difference in proportion $x^2(1, N = 179,668) =2265.55, p < 0.001.**

**WEPEE656**

IMPROVING MARKET TRANSPARENCY AND STRATEGIC PROCUREMENT TO IMPROVE ACCESS TO POC EID

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**Background:** Globally, only half of infants born to HIV-infected mothers undergo early infant diagnosis (EID) and of these, only half ever receive test results. EID is the first step to getting onto treatment and without ART, 80% of children die by 5 years of age. Point-of-care (POC) EID can improve both coverage of EID and receipt of results, increasing the number of children linked to care and enrolled on ART. As access to and uptake of new POC EID is still limited, innovative strategies are required to improve overall access to this essential technology. EGPAS, MSF and CHAI support are working in 13 countries to document POC EID’s impact on pediatric diagnosis and treatment, model cost effectiveness, and use strategies to improve price and terms and conditions to improve access to POC EID.

**Description:** In order to strengthen negotiations and improve access to POC EID, several organizations with large proportions of the nascent POC EID market are collaborating to pool volumes, jointly negotiate contracts, analyze cost of goods, and provide transparency for price and terms and conditions for procured products.

**Lessons learned:** Pooling volumes and joint negotiations can result in manufacturer contract terms that will improve access for POC EID, including service and maintenance agreements that are responsive to key priorities identified by in-country staff, such as more rapid module replacement and provision of loaner platforms when off-site repairs are required. Cost of goods for cartridges ranged from $6.20-10.91 USD, while market prices average about $20 USD, suggesting there is some room for price reductions in this market, particularly if volumes were to increase or be bundled with similar diagnostics, such as POC viral load.

**Conclusions/Next steps:** Although the POC EID market is relatively small, use of procurement strategies, especially: pooled procurement; contract transparency; and knowledge of cost of goods can help to support healthier markets that support affordable and sustainable access to this critical diagnostic. In the future, bundling procurement of this test with POC diagnostics for other diseases (e.g. tuberculosis) can help further reduce prices of cartridges and transactional costs.

**WEPEE657**

AMPLIFICATION REFRACTORY MUTATION (ARM) WITH REAL TIME DETECTION OF MUTATIONS M184V AND K103N AMONG NAIVE PATIENTS IN PANAMA

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**Background:** The HIV epidemic is still ongoing in Central American countries. Here we analyze the use of the ARMS technique for detecting known point mutations (M184V and K103N) in the HIV polymerase gene. This method is suitable for rapid, cost-effective and safe, and also an adaptation to a real time system.

**Methods:** Fifty plasma samples were analyzed for viral load and genotyping of HIV-1. The ARMS-qPCR results were compared with the genotype test Viroseq v2.5. RNA was extracted using QIamp viral RNA mini kit. For the ARMS-qPCR we used the primers described by Nanfack et al. and probes that allow the detection of each mutation using Rotorgene Q.

**Results:** For the M184V mutation 48 naive patients were analyzed; from them we obtained a concordance of 100% with the sequencing method. Instead, for the mutation K103N, 5 samples for the analysis of K103N were mutated and the test got a concordance of 80 percent. On the other hand, The ARMS-qPCR had a 95.56 % of concordance capable of detecting wild type samples for K013N.

**Conclusions:** ARMS-qPCR proved to be capable of detecting specific mutations M184V and K103N, which is important because both are common in transmitted drug resistance. This could be an option as novel method for the detection of the status of the patient before the beginning of their treatments in countries with low resources where sequencing methods are not available. This method could minimize the time to obtain the results.
SCALE UP OF VIRAL LOAD MONITORING

WEPEE658

VIRAL LOAD AWARENESS AMONG PEOPLE ON ANTIRETROVIRAL TREATMENT IN NSANJE DISTRICT, MALAWI

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Background: In 2014 routine viral load (VL) monitoring was implemented in Nsanje district, Malawi. To increase patient’s awareness of VL, health talks on VL were held in ART waiting areas and VL was explained individually to patients with a high VL. Patient’s awareness of VL is vital to motivate their adherence and create demand for VL. We assessed patients’ understanding of VL in order to further adapt patient education strategies.

Methods: A questionnaire was developed and pretested in Chichewa, examining patients’ understanding of the goal of a VL test, its result interpretation and the offer of a VL test at the clinics. The questionnaires were administered in August 2015 at three health facilities to adults on ART greater than 18 years presenting in the ART waiting area of the health facility.

Results: A total of 384 patients were interviewed and the majority (76%) were female. Two hundred sixty seven (70%) patients had heard about VL testing of whom 77% reported that a VL test measures the amount of HIV in the blood, 88% understood that an undetectable VL means there is still HIV to be found in the blood and 21% knew the threshold at which their VL may require action. Sixty five percent identified poor adherence as the primary reason for having a high VL, while 24% stated that the test had not been offered to them by the health care worker. Of the 211 who did get a VL test, only 50% received the result.

Conclusions: Empowerment of patients to request their VL and act upon on its result are important steps in the scale-up of viral load monitoring. Patient education on VL has led to a majority of patients on ART being aware of new HIV treatment monitoring standards. Interpretation of VL results by patients remains unsatisfactory and further patient education on result interpretation is needed, in conjunction with strategies targeting health care workers.

WEPEE660

HIV VIRAL LOAD TESTING SCALE UP IN MOZAMBIQUE: LABORATORY PERSPECTIVES AFTER 2 YEARS OF IMPLEMENTATION

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Background: The project purpose was to support Mozambican Ministry of Health to implement and scale up viral load (VL) testing and to investigate the feasibility in the country. The current paper describes the implementation strategy, outcomes and challenges after 2 years of VL testing from a laboratory perspective.

Description: In September 2013 MSF in partnership with Ministry of Health implemented VL Viral Load testing in Maputo and Tete. The BioMerieux NUCLISENS platform was installed in Maputo. The initial capacity estimated was 2500 tests per month. DBS samples were collected for routine viral load from 16 Health Centers with a cohort of 50405 patients on ART. Additional 26 facilities had access to target viral load. The laboratory received 46400 samples between Jan 2014 and Dec 2015 and carried out 44565 tests. Monthly collection increased from 933 to 3585. On average 1348 and 2366 tests/month were done in 2014 and 2015 respectively.

Lessons learned: The scale up was successful due to a close collaboration between clinicians, laboratory staff and the counsellor team. Initially clinicians were failing to identify eligible patients through their files, while laboratory staff were playing a key role scheduling and collecting additional VL for all eligible patients with a request combined with CD4. Counsellors were also involved in identifying eligible patients attending the health centre, i.e pharmacy for drug refill or waiting areas, and highlighting them to clinicians. The difference between number of samples collected and tests done was due to frequent breakdowns of the platform and reagent stock outs. The invalid rate was 2% and 3% for 2014 and 2015 respectively. Lack of skilled human resources at facility and central laboratory level and access to safe disposal of laboratory reagents were major challenges encountered.

Conclusions/Next steps: This experience demonstrates the feasibility of rapid scale-up of viral load in Mozambique. Lessons learned highlight the importance of adequate laboratory staffing, machine maintenance, robust reagents supply and effective waste disposal, and the importance of close cooperation between laboratory, clinical, and counselling teams in promoting uptake of viral load.
Thursday 21 July

ORAL ABSTRACT SESSIONS

THAAO 101

FREQUENT AND ‘BURST-LIKE’ REACTIVATION FROM LATENCY IN SIVMAC239M INFECTED MACAQUES

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Background: Anti-retroviral treatment interruption is usually followed by the recrudescence of infection within a few weeks. This is thought to arise from the reactivation and viral production of a number of latently infected cells. However, very little is known about the basic dynamics of reactivation from latency, such as the frequency of latent cell reactivation, whether reactivated cells live for a prolonged period, how much virus they produce, and whether they die following reactivation. We have developed a novel system of ‘tagged’ viruses to study the reactivation of individual latent cell ‘reactivation founders’ and combine this with viral dynamics modeling to better understand HIV reactivation.

Methods: Rhesus macaques were infected with 2.2 x 10⁵ IU of a modified SIVmac239 containing an SIV population with >10,000 different clonotypes differing only at a 34bp ‘tag’ inserted between the Vpx and Vpr genes (SIVmac239M). Animals were treated with TDF/FTC/RAL on day 62 for 82 days (n = 3, group 1), or with TDF/FTC/IND/RTV on day 4 for >300 days (n = 2, group 2) prior to treatment interruption. Illumina sequencing was used to identify the frequency of individual clonotypes following treatment interruption.

Results: All animals showed a diversity of SIVmac239M clonotypes in serum prior to treatment, and rapid recrudescence of infection after treatment interruption. Analysis of the number and relative size of individual reactivation founder clonotypes revealed that between 3 and 63 unique clonotypes were detectable in different animals. Modeling of the ratios of the clonotypes in different animals showed that the frequency of reactivation from latency ranged from 27.3 reactivations per cell being ‘burst-like’ in order to produce the observed frequencies.

Conclusions: The use of ‘tagged’ SIVmac239M is an extremely powerful tool for analyzing the dynamics of HIV reactivation from latency. Analysis of the reactivating clonotypes shows that the frequency of reactivation is higher in animals treated for shorter periods of time. The rapid ‘burst-like’ production of virus from reactivated cells suggests that these cells may be short lived following reactivation.

THAAO 102

EXCISION OF HIV-1 DNA BY GENE EDITING: IN VITRO, EX VIVO AND IN VIVO STUDIES

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Background: Cure strategy for HIV-1 infection and AIDS should include methods that directly eliminate the proviral genome from HIV-1 positive cells and/or eliminate infected cells harboring latent virus.

Methods: We modified the CRISPR/Cas9 system to enable recognition of specific DNA sequences positioned within the HIV-1 promoter spanning the 5’ long terminal repeats (LTR) and various viral genes including Gag. We applied CRISPR/Cas9 by several methods including plasmid, lentiviral and Adeno-associated virus to cell models for latency, in vitro HIV-1 infection of CD4+ T-cells, CD4+ T-cells from HIV-1 positive patients and transgenic animals encompassing integrated copies of HIV-1 to assess efficacy of our gene editing molecule in excising a segment of HIV-1 for cells in in vitro, ex vivo and in vivo systems.

Results: We demonstrated complete elimination of HIV-1 DNA from latently infected cells, a drastic decrease in HIV-1 replication in in vitro replication of PBMCs and CD4+ T-cells, suppression of HIV-1 expression in PMCs and CD4+ T-cells for HIV-1+ AIDS patients due to InDel mutations in the viral genome and excision of viral DNA positioned between the LTR and Gag gene in tissues of HIV-1 transgenic mice upon injection of AAV-CRISPR/Cas9.

Conclusions: CRISPR/Cas9 can offer an effective, precise, efficient and safe strategy for eradication of HIV-1 in several laboratory model systems and can be considered for its advancements toward clinical trials.

THAAO 103

CCR5 GENE EDITED CELLS TRAFFIC TO VIRAL RESERVOIR TISSUES AND UNDERGO SHIV-DEPENDENT POSITIVE SELECTION IN NONHUMAN PRIMATES

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Background: Gene editing of the CCR5 coreceptor locus in hematopoietic stem/progenitor cells (HSPCs) is a promising therapy for HIV infection. We have previously demonstrated the feasibility of this approach in nonhuman primates. Here, we leverage our expertise with gene editing in the pigtailed macaque, Macaca nemestrina to interrogate the donor persistence, trafficking, and antiviral efficacy of CCR5-edited cells. Our objectives were to understand how individual gene-edited HSPCs persist following autologous transplantation and virus infection, determine whether HSPC-derived, gene-edited progeny traffic to viral reservoir tissues, and develop strategies to increase the number of these cells in vivo.

Methods: Zinc Finger Nucleases (ZFNs) are used to target the CCR5 locus in macaque HSPCs. Gene edited HSPCs are transplanted into animals either prior to infection with simian/human immunodeficiency virus (SHIV), or in SHIV-infected animals that are treated with a combination antiretroviral therapy (cART) regimen designed to approximate a well-suppressed HIV+ patient. Edited cells are measured in peripheral blood, bone marrow, gastrointestinal (GI) tract, lymph nodes, and at necropsy in a panel of 25 tissues, using methods including deep sequencing.

Results: We observe up to 14-fold enrichment of CCR5-gene edited memory CD4+ T-cells in SHIV-infected animals, consistent with virus-dependent selection against CCR5 wt memory CD4+ T-cells. Gene edited cells are found in a broad array of anatomical sites. These include tissues that we have identified as viral reservoirs in our model, namely GI tract and lymph nodes. Spatial and temporal tracking of CCR5 mutations suggests that gene edited cells persist long-term, and are polyclonal. Homology directed repair (HDR) pathways can be exploited in macaque CD4+ SHIV+ HSPCs, facilitating knock-in of selectable markers at the disrupted CCR5 locus.

Conclusions: Our gene editing strategy results in stable engraftment of CCR5-mutated and SHIV-resistant HSPCs and their progeny in blood, and in tissues known to serve as viral reservoirs. Importantly, gene-edited CD4+ T-cells undergo positive selection during active infection, further supporting the validity of this approach in the clinic. Our preliminary ex vivo HDR data suggest that these gene-edited cells could be engineered to undergo positive selection without the need for ongoing viral replication.
THAAO 104LB
NO EVIDENCE OF ONGOING REPLICATION IN TISSUE COMPARTMENTS DURING COMBINATION ANTIRETROVIRAL THERAPY

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Background: Sources of HIV persistence during combination antiretroviral therapy (cART) remains uncertain, and the contribution of active cycles of HIV replication in tissue compartments is unknown. Genetic analyses are sensitive measures to detect ongoing cycles of virus replication, particularly in individuals who undergo cART early after infection, when HIV populations are relatively monomorphic and increases in genetic diversity are easily detectable. To investigate whether ongoing replication occurs in tissues, we studied HIV populations in blood and anatomic compartments from 3 individuals who initiated antiretroviral therapy shortly after HIV infection and maintained viral suppression for > 8y.

Methods: Samples from three individuals in IRB-approved studies were studied. Individuals started cART soon after infection, maintained HIV RNA < 50 c/ml for 8-16y, and underwent autopsy for primary effusion lymphoma (N=1), or colono- copy (N=2). HIV from autopsy was quantified (RT-PCR), and HIV sequences (pro-pol, 1200 nt) were obtained from tissues and peripheral blood lymphocytes (PBL) using single genome sequencing (SGS). Sequences were aligned, subjected to phylogenetic (MEGA), and compartmentalization (Slatkin-Maddison, FST, geographic subdivision) analyses; 263 sequences from autopsy and 293 from individuals undergoing colonoscopy were analyzed.

Results: HIV DNA was detected in most tissues at autopsy (median 1.8 copies/166 cells, range 1-75/166 cells). HIV had limited genetic diversity in tissues and PBL (average pairwise difference, APD 0.3 - 0.6%). From the autopsy, PBL (N=124), spleen (38), lymph node (30), ileum (30), jejunum (12), colon (5), effusion cells (10), kidney (5), lung (3), testes (1) were obtained; no HIV was recovered from frontal lobe, spinal cord, or the cell-free effusion fluid. HIV populations were well-mixed in tissues and non-divergent from PBL-derived HIV, with no evidence of compartmentalization in any tissue. Identical hypermutated sequences in PBL and several tissues demonstrated distribution of clonally expanded cells had occurred. In 2 individuals undergoing colonoscopy, analysis of HIV from ileum, colon, and PBL revealed no evidence of ongoing replication and no divergence from pretherapy plasma RNA obtained 12-16 years prior to colonoscopy.

Conclusions: No evidence of ongoing replication was detected in tissues compared to peripheral blood in individuals undergoing cART, suggesting combination antiretroviral therapy blocks active HIV replication, including in tissues.

THAAO 105LB
ALLOGENEIC STEM CELL TRANSPLANTATION IN HIV-1-INFECTED INDIVIDUALS: THE EPISTEM CONSORTIUM

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Background: To date, the only and most compelling evidence of a medical intervention that has been able to cure HIV infection (the “Berlin patient”), involved an allogeneic stem cell transplant (SCT) from a donor who was homozygous for CCR5Δ32. Although this high-risk procedure is only indicated for certain hematological malignancies, the strategy raised tremendous scientific potential to gain insight in the mechanisms of HIV eradication.

Methods: The EpiStem consortium aims to guide clinicians of HIV infected patients who require an SCT in donor search and CCR5 screening, ethical regulations, the SCT procedure, sampling procedures and in depth investigations to study HIV per- sistence. The patients are included in the EPISTEM observational cohort. Detailed analysis of the cohort should provide insight as to whether additional factors such as conditioning regimen, total body irradiation and graft versus host disease may contribute to the eradication of the potentially infectious viral reservoir in addition to the lack of a functional CCR5 receptor.

Results: Nearly 30,000 cord blood units in multiple European blood banks and more than 1,000,000 adult donors have been genotyped for CCR5 to generate a registry of CCR5Δ32 available donors. Twenty HIV positive patients with diverse hematological malignancies have been registered to the EPISTEM cohort. Since 2012, 13 patients have been transplanted; 4 with a CCR5Δ32, 1 with a heterozygous, and 8 with a CCRS WT donor. In 3 cases the donor cells came from cord blood and in 10 cases from an adult donor. So far, 5 patients have successfully passed the 12 months follow-up after transplantation, and 8 patients have died after transplantation, despite achieving full donor chimerism in most cases. Preliminary analysis of virological and immunological data from blood and tissue samples shows a systematic reduction of HIV-1 reservoirs to very low levels.

Conclusions: EPISTEM is actively recruiting new cases and continues to systematically investigate HIV persistence over time to gain insight in potential HIV-1 eradication.

THAAO 106LB
ELIMINATION OF HIV-1 LATENTLY INFECTED CELLS BY PKC AGONIST GONIDIMACRIN ALONE AND IN COMBINATION WITH A HISTONE DEACETYLASE INHIBITOR

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Background: Several classes of HIV-1 latency reversing agents (LRAs) including PKC agonists and HDACIs have been investigated for their effects against latent HIV-1 infection. Although many LRAs were capable of reactivating latent HIV-1, it is less certain if they can actually reduce the latent viral reservoirs. To identify potent LRAs that can effectively eliminate/reduce latent HIV-1 reservoirs, we investigated the PKC agonist gonidimacrin (GM) alone and in combination with a selective HDAC inhibitor thalidomide/benzamide (TPB) for their effectiveness on elimination of HIV-1 latently infected cells.

Methods: 1) cell line model: U1 cells were treated with various concentrations of GM with/without the presence of TPB. The culture supernatant was then collected for P24 ELISA to quantify latent HIV-1 activation; 2) ex vivo model: PBMCs from HIV+ patients (with >5 years of ART and undetectable viral load) were treated with GM, GM+TPB, or vorinostat in the presence of anti-retroviral agents. The viral DNA in the lately infected cells were quantified with RT-PCR and the frequency of latently infected cells was determined by using a limiting dilution viral outgrowth assay.

Results: In U1 model, the EC50 of GM was 18 pM for latent viral activation and its potency was enhanced about three-fold in the presence of TPB. In ex vivo model, GM alone (20 pM) was able to reduce pro-viral DNA and the frequency of latently infected cells by 5-10 folds. Addition of TPB further increased the effect of GM by over three-fold.

Conclusions: The results of this study demonstrate that GM is an extremely potent LRA that can effectively reduce HIV-1 latently infected cells ex vivo at pM concentrations. In the presence of TPB, the effect of GM was further enhanced. TPB exhibited good selectivity with no overlapping cytotoxic and effective doses in contrast to other tested HDACIs. Moreover, TPB may antagonize the potential side effects of GM by inhibiting high dose GM-induced inflammatory cytokine production. Thus, combination of GM and TPB provides a unique and effective option in reducing the latent HIV-1 reservoir.
THAA02 IMMUNE CONTROL OF HIV

THAA021

NOVEL CONSERVED ELEMENT HIV/SIV DNA VACCINES MAXIMIZE BREADTH AND MAGNITUDE OF IMMUNE RESPONSE

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Background: HIV sequence diversity and potential “decoy” epitopes are hurdles in the development of an effective AIDS vaccine. To target immune responses towards invariant viral regions, we engineered DNA-based immunogens encoding conserved elements (CE) of HIV-1 selected on the basis of stringent conservation, functional importance, broad HLA-coverage, and association with viral control.

Methods: DNA vectors were generated expressing 7 collinearly arranged CE from p24 of the HIV-1 genome to cover >98% of group M sequences. By analogy, a similar vaccine was developed against SIV Gag. Heterologous DNA regimens consisting of CE prime were followed by a boost with DNA expressing either full-length Gag or a combination of CE-full-length Gag. Immunologic responses were evaluated in macaques vaccinated by intramuscular inoculation.

Results: All HIV and SIV CE DNA-vaccinated macaques developed robust CE-specific memory responses with a significant fraction of cytotoxic T cells. In contrast, vaccination with HIV or SIV full-length gag DNA was very inefficient in inducing CE responses (50% responders; fewer CE recognized). Subsequent gag DNA vaccination significantly boosted the preexisting CE responses. Interestingly, vaccination with a combination of CE+gag DNA efficiently increased the breadth of preexisting CE responses, indicating a significant change in epitope hierarchy both for the HIV and SIV vaccine regimens. The induced CE T cell responses rapidly disseminated into secondary lymphoid organs and effector mucosal sites. CE responses were maintained for >12 years. A single booster vaccination with CE DNA resulted in rapid increase of pre-existing responses reaching up to ~7% of total T cells.

Conclusions: Priming with CE DNA is critical to induce broad responses to vulnerable sites of the virus while avoiding variable or decoy targets that may divert effectors. CE T cell responses towards less protective viral determinants. Combination of CE and full-length immunogens provides a novel strategy to increase the breadth and magnitude of cellular and humoral immunity. This strategy allows for the development of robust CE T cell responses targeting a broad number of epitopes, including subdominant conserved viral epitopes. The expanded breadth of the responses could provide an advantage in restricting viral propagation. This vaccine regimen is currently under development for testing in an HVTN clinical trial.

THAA022

CD8+ T-CELL BREADTH AND EX Vivo VIRUS INHIBITION CAPACITY DISTINGUISH BETWEEN VIREMIC CONTROLLERS WITH AND WITHOUT PROTECTIVE HIV-1 CLASSES I ALLELES

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Background: The mechanisms of viral control and loss of viral control in chronically infected individuals with or without protective HIV-1 class I alleles are not fully understood. We characterized longitudinally the immunological and virological features that may explain divergence in disease outcome in 70 HIV-1 C-clade infected antiretroviral therapy (ART)-naive South African adults, 35 of whom possessed protective HIV-1 class I alleles.

Methods: Viral loads, CD4 counts, HLA typing and sequencing were performed by standard molecular methods. HLAAs A*74:01, B*57, B*58:01, B*81:03 were considered protective. HIV-specific CD8+ T-cell immune responses were quantified using the interferon gamma (IFN-g) enzyme-linked immunosorbent spot (ELISPOT) assay after stimulation with overlapping peptides (OLP) and HLA-specific optimal peptides derived from the C-clade HIV consensus sequence covering the whole proteome. T cell polyfunctionality and proliferation upon stimulation with Gag peptide pool was assessed by flow cytometry and CFSE assay respectively. Virus inhibition was assessed by ex vivo co-culture assay.

Results: Over five years of longitudinal follow-up, 35% of individuals with protective HIV class I alleles lost viral control compared to none of the individuals without protective HIV class I alleles (p=0.06). Sustained HIV-1 control in patients with protective HIV class I alleles was associated with breadth of HIV-1 CD8+ T-cell responses against Gag and enhanced ability of CD8+ T cells to suppress viral replication ex vivo. In some cases loss of virological control was associated with reduction in both total breadth of CD8+ T cell responses and the ability of CD8+ T cells to suppress viral replication ex vivo, in the absence of differences in HIV-1-specific CD8+ T cell polyfunctionality or proliferation. In contrast, viremic controllers without protective HIV class I alleles possessed low breadth of HIV-1-specific CD8+ T cell responses characterized by reduced ability to suppress viral replication ex vivo.

Conclusions: These data suggest that the control of HIV-1 in individuals with protective HIV class I alleles may be driven by broad CD8+ T cell responses with potent viral inhibitory capacity while control among individuals without protective HIV class I alleles may be mediated by CD8+ T cell independent mechanisms.

THAA023

NEUROPHILS MEDIATE POTENT AND RAPID ANTI-HIV ANTIBODY-DEPENDENT FUNCTIONS

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Background: Functional antibodies have been shown to mediate innate immune effector responses such as antibody dependent cellular cytotoxicity (ADCC) and their importance in HIV protection was highlighted by the RV144 HIV vaccine trial. However, the majority of studies have focused on antibody activation of NK cells and monocytes, while neutrophils remain understudied. Neutrophils are of particular importance as they are abundantly present in the mucosal sites of HIV transmission, constitute 40-70% of white blood cells and can respond rapidly to stimuli. We investigated the repertoire of antibody dependent functions in HIV infected patients and examined any differences between long-term slow progressors (LTSP) and progressors.

Methods: Neutrophils, PMBC, monocytes and NK cells were isolated from healthy donors and were evaluated for ADCC killing kinetics utilising HIV-specific antibodies. Neutrophils were incubated with HIV-1 p24-coated plates and examined any differences between long-term slow progressors (LTSP) and progressors.

Results: Neutrophils readily mediated HIV-specific ADCC and ADP and significant correlations between the functions were observed for LTSP R =0.626 (p=0.004) and progressors R=0.653 (p=0.014). Neutrophils mediated potent ADCC activity, having 2 fold greater responses than NK cells, enhanced killing capacity compared to PMBC’s, and induced similar responses to monocytes. Neutrophils required a higher concentration of HIV IgG to reach their maximal ADCC activity compared to NK cells, PMBC and monocytes. Similar levels of ADP and ADCC were observed in neutrophils between the LTSP and progressors patient groups.

Conclusions: HIV-specific IgG can activate neutrophils to mediate ADP and ADCC against HIV-1 envelope protein. As both of these functions are highly correlated, the same Fc receptors/antibodies may be utilised to mediate these responses. Neutrophils may require more Fc receptor/antibody interactions for activation. The rapid action and high magnitude of ADCC by neutrophils highlights their potential importance early in HIV infections.
Oral Abstract

Thursday 21 July
Oral Abstract Sessions

THAA024
IMPACT OF ANTIBODY ISOYPE AND ASSOCIATION CONSTANT RATE ON ANTIVIRAL FUNCTIONS AGAINST HIV-1

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Background: Both IgG and IgA are found at mucosal surfaces where HIV-1 enters the body in over 85% of the cases. However, few studies have investigated whether IgG and IgA recognising the same epitopes presented different antiviral abilities that could prevent HIV-1 infection. Here, we compared the antiviral properties of IgG and IgA in various assays and examined the relationships between kinetics parameters of antibody-antivirions interactions and antiviral functions.

Methods: A panel of 12 neutralising monoclonal antibodies (mAbs) including IgG, monomeric (mIgG) and dimeric (dIgG) were compared for their ability to bind, capture, mediate viral aggregation, neutralise and inhibit HIV-1 virions transcytosis across epithelial cells. Kinetics parameters of mAbs and HIV-1 gp140 interactions were measured using Bio-Layer Interferometry (BLI). HIV-1mAbs capture by the panel of mAbs was determined by ELISA, antibody mediated viral aggregation (AMVA) was detected using Nanoparticle Tracking Analysis (NTA), neutralisation was assessed by TZM-bl assay and inhibition of viral transcytosis through a monolayer of HEC-1A cells was quantified by real-time Reverse Transcription Polymerase Chain Reaction (RT-PCR).

Results: We showed previously that the association constant rate (K_a) correlates with antibody ability to capture viral particles, with IgG binding more tightly to its target and capturing more HIV-1 virions than its mIgG and dIgA counterparts with the same epitope specificity. In this study, we demonstrated that not only the K_a of neutralising mAbs significantly correlates with viral capture but also with neutralisation (p = 0.01). Additionally, we found a significant relationship between the proportions of virions captured and the antibody neutralisation activity (p < 0.001). However, no relationship was observed between K_a and gp140 interactions with the same epitope specificity. Interestingly, dIgAs were able to induce viral aggregates and to inhibit HIV-1 transcytosis while IgGs and mIgGs recognising the same epitopes failed to show these functions.

Conclusions: Thus, this work implies that the association constant rates of mAbs might be use as an indicator of antibody ability to capture viral particles and to neutralise infectious virions. Moreover, it shows that antibody isotype influences antiviral functions and provided insights for the selection of potent antibody against HIV-1.

THAA026
PD-1 BLOCKADE SYNERGIZES WITH ART FOR RESTORING ANTI-VIRAL CD8+ T CELL FUNCTION AND POSSIBLY DESTABILIZING THE VIRAL RESERVOIR IN SIV INFECTED MACAQUES

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Background: The expression of the inhibitory receptor programmed death-1 (PD-1) on anti-viral CD8+ T cells and virally infected CD4 T cells provides an immunological signature for both T cell dysfunction and viral latency during chronic SIV/HIV infection. We hypothesized that PD-1 blockade administered during the initiation of anti-retroviral therapy (ART) and under fully suppressive ART would have direct effects on both dysfunctional CD8+ T cells and latently infected CD4 T cells. To test our hypothesis we developed a primatized anti-human PD-1 Ab to allow for repeated infusions in rhesus macaques (RM) and administered PD-1 blockade to chronically SIV infected RMs in combination with ART.

Methods: SIVmac251 infected RMs were administered 5 infusions (over 14 days) of a 3mg/kg dose of primatized anti-PD-1 Ab 10 days prior to the initiation of ART. About 8 months post ART, RMs received monthly infusions of 10mg/kg anti-PD-1 or saline. ART was interrupted at 2 weeks after the final PD-1 Ab infusion.

Results: PD-1 blockade administered during the initiation of ART enhanced proliferation of anti-viral CD8+ T cells (p=0.02), increased their cytotoxic potential (p=0.04) and polyfunctionality (p=0.01). Importantly, the PD-1 Ab treated animals showed more rapid viral suppression (42 days in the PD-1 group versus 140 days in saline group; p = 0.01) and greater reconstitution of Th17 cells in the rectal mucosa (p = 0.01) following initiation of ART. Moreover, PD-1 blockade administered under suppressive ART resulted in transient but significant increases in viremia, suggesting possible effects on destabilizing the latent viral reservoir. Following ART interruption, PD-1 Ab treated animals showed up to 80-fold reduction in set point viremia compared to set point levels prior to initiation of ART.

Conclusions: These results reveal for the first time the potential of PD-1 blockade both on restoring anti-viral CD8+ T cell function and possibly destabilizing the viral reservoir under ART. They highlight the potential of PD-1 blockade to work synergistically with other therapeutic agents such as vaccines and latency reversing agents to effectively diminish HIV reservoir under ART as a means to establish a functional cure.

THAB010
EXTENDED ART INITIATION CRITERIA CAN BE IMPLEMENTED SUCCESSFULLY IN RURAL SOUTH AFRICA

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Background: Here we assess whether any compensatory reduction in initiation of sicker patients ≤350 to ≤500 copies/µl in 9 primary health clinics in KwaZulu-Natal, South Africa. In July 2014, we extended ART initiation criteria from CD4 cell counts of ≤350 to ≤500 copies/µl in 9 primary health clinics in KwaZulu-Natal, South Africa. Here we assess whether any compensatory reduction in initiation of sicker patients was seen and whether retention among those newly eligible was satisfactory in this public sector setting.

Methods: In this retrospective cohort analysis we compare proportions initiated on ART and RIC at 6 months among patients with baseline CD4 taken between July 1 and July 31.

Results: Extended ART initiation criteria can be implemented successfully in rural South Africa without loss of access to ART for patients with lower CD4 counts, and that patients with higher CD4 counts may have lower retention in care (RIC).

Conclusions: In July 2014, we extended ART initiation criteria from CD4 cell counts of ≤350 to ≤500 copies/µl in 9 primary health clinics in KwaZulu-Natal, South Africa. Here we assess whether any compensatory reduction in initiation of sicker patients was seen and whether retention among those newly eligible was satisfactory in this public sector setting.

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and December 31, 2014 (CD4≤500 eligibility cohort) and between July 1 and December 31, 2013 (CD4≥550 eligibility cohort). Pregnancy, TB age < 15 years and WHO stage 3 or 4 were exclusion criteria. Outcomes were determined from baseline CD4 and analysed using survival analysis.

**Results:** There were 768 patients in the CD4≥550 eligibility cohort, with 31% having baseline CD4 ≤200, 51% 201-350, and 12% 351-500. Of the 856 in the CD4≤500 eligibility cohort 23% had a baseline CD4 ≤200, 37% 201-350 and 33% 350-500. In both cohorts, median age was 31 years and 67% were female. Among participants with CD4 351-500, percentage initiated on ART within 3 months increased 10 fold between the periods from 7% (95%CI:3.1-14.0) to 70% (95%CI: 61-78); among those with CD4≤200 this increased from 70% (95%CI:55-80) to 86% (95%CI:79-93).

The proportion initiated within 3 months among those with baseline CD4 201-350 remained unchanged at approximately 75%. RIC at 6 months was 82% (95%CI:79-85%) in the CD4≤550 cohort and 80% (95%CI:76-84%) in the CD4>550 cohort.

**Conclusions:** Expanding eligibility for ART to CD4≥500 resulted in rapid change in time to ART initiation among those with baseline CD4 351-500 without compromising access to care for more vulnerable patients.

**THABO102**

**IMMEDIATE HIV TREATMENT PREVENTS NEW INFECTIONS: CAUSAL EVIDENCE ON THE REAL-WORLD IMPACT OF IMMEDIATE VERSUS DEFERRED ART IN RURAL SOUTH AFRICA**

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**Background:** Immediate initiation of antiretroviral therapy (ART) reduces HIV transmission in serodiscordant couples in randomized controlled trials. However, the effect of immediate ART under real-life conditions is not well characterized. We investigate the effect of immediate ART eligibility on HIV incidence among HIV-uninfected household members using a large population-based longitudinal cohort in KwaZulu-Natal, South Africa. We use a quasi-experimental regression discontinuity design to estimate causal effects using the CD4 count-based threshold rule for ART initiation.

**Methods:** Households members of patients seeking care at the Hlabisa HIV Treatment and Care Programme between January 2007 and August 2011 with CD4 counts above versus immediately below the threshold. Exploiting the CD4-count based threshold rule for ART initiation (CD4≥200 cells/µl until August 2011), we used Cox proportional hazards models to compare outcomes for household members of patients who presented for care immediately above versus immediately below the threshold.

**Results:** Characteristics of household members of index patients initiating HIV care were balanced between those with an index patient immediately eligible for ART (N=2,489) versus delayed for ART (N=1,626). In the immediate group, median age was 20 years (IQR 16-48) and 61.4% were female, compared to median age 20 years (IQR 16-47) and 62.4% female in the delayed group. Seventy-eight percent of index household members immediately eligible for ART initiated ART within 6 months of initiating care, compared to 22.3% of those delayed for ART. Overall HIV incidence among household members was 2.8 infections per 100 person-years (95% CI 2.5 to 3.1). Immediate eligibility for treatment reduced in a 45% decrease in HIV incidence in households (HR=0.55, 95% CI 0.30-0.87).

**Conclusions:** Outside of a tightly-controlled clinical trial setting, we demonstrate substantial reductions in household-level HIV incidence with immediate eligibility for ART. The benefit of ART uptake may extend outside of couples into spillover effects in households.
**THABO104**

**SAFIL TRIAL: Switching Suppressed First-Line Patients to TDF/FTC/ENTRIVIRINE/RPV is non-inferior to TDF/FTC/EFAVIRENZE (TDF/FTC/EFV) and could be an alternative treatment option in LMICs**


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**Background:** Current global antiretroviral therapy (ART) guidelines recommend immediate initiation of ART and thus an increasing number of HIV patients are becoming eligible for treatment. There is a pressing need for simple, efficacious, well-tolerated, affordable ART regimens. Rilpivirine (RPV) has a good safety profile and is a well-tolerated NNRTI whose low recommended once-daily dosing makes it a good candidate component for an affordable fixed-dose-combination (FDC) in low- and middle income countries (LMIC).

**Methods:** SALIF (Switching At Low HIV-1 RNA Into Fixed Dose Combinations) was a 48 week, multicenter, phase 3b, randomized, open-label clinical study, designed to demonstrate non-inferiority of TDF/FTC/RPV to TDF/FTC/EFV (both as FDC) in maintaining HIV-1 RNA suppression (VL<50 copies/mL) among adults currently switched to TDF/FTC/RPV and in 203/211 (96.2%) on TDF/FTC/EFV arm. Most frequent reasons were: adverse events (3.8% vs. 0.5%), loss to follow-up (0.9% vs. 1.4%) and subject withdrawal (0.9% vs. 1.4%).

- **Late AEs**: 17 individuals (8.0%) discontinued assigned treatment vs. 10 (4.7%) in the TDF/FTC/EFV arm. Most frequent reasons were: adverse events (3.8% vs. 0.5%), loss to follow-up (0.9% vs. 1.4%) and subject withdrawal (0.9% vs. 1.4%).

**Baseline Characteristics of patients at time of switch to second line regimen**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ATV/r n=285</th>
<th>LPV/r n=215</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, Mean(SD)</td>
<td>37(9.0)</td>
<td>37(9.2)</td>
<td>0.4979</td>
</tr>
<tr>
<td>Sex, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>187(66.5)</td>
<td>135(62.8)</td>
<td>0.514</td>
</tr>
<tr>
<td>Male</td>
<td>98(33.5)</td>
<td>80(37.2)</td>
<td></td>
</tr>
<tr>
<td>BMI, Median(IQR)</td>
<td>22.3(17.9-24.4)</td>
<td>21.7(17.3-24.5)</td>
<td>0.1554</td>
</tr>
<tr>
<td>Time(months) on first line therapy, Median(IQR)</td>
<td>39(22-65)</td>
<td>40(14-64)</td>
<td>0.0150</td>
</tr>
<tr>
<td>CD4 count cell/µl, Median(IQR)</td>
<td>109(53-202)</td>
<td>114(60-206)</td>
<td>0.5022</td>
</tr>
<tr>
<td>Viral load copies/mm3, Median(IQR)</td>
<td>4.8(4.3-5.2)</td>
<td>4.9(3.4-5.4)</td>
<td>0.2501</td>
</tr>
</tbody>
</table>

**Late Breaker Posters**

**Results:** A total of 285 patients began ATV/r regimen versus 215 on LPV/r. Baseline characteristics for the 2 groups as in the table were not significantly different except median duration on first line.

**Conclusions:** In adults with suppressed viral load on first-line NNRTI-based ART in a LMIC setting, switching to a FDC of TDF/FTC/FTV was non-inferior to TDF/FTC/EFV in maintaining high rates of viral suppression with a comparable tolerability profile.

**THABO105**

**VIROLOGICAL OUTCOMES OF PATIENTS ON SECOND- LINE ART (BOOSTED ATAZANAVIR VERSUS BOOSTED LOPINAVIR)**

E. Laher Agnes Odongpiny1, D. Naahwaanga1, A. Kaimal1, A. Kiragga1, S.M. Nabaggala1, B. Castelmuovo1, R. Parkes-Katsarhi2

1Infectious Diseases Institute, Makerere College of Health Sciences, Kampala, Uganda, 2University of Cambridge, Institute of Public Health, Infectious Diseases, London, United Kingdom

**Background:** Since 2010 the WHO guidelines recommend the use of boosted Atazanavir (ATV/r) as a preferred protease inhibitor (PI) alongside boosted Lopinavir (LPV/r) in patients who have failed first line antiretroviral therapy (ART) in sub-Saharan Africa. However, there are no RCTs or observational studies comparing virological outcomes of ATV/r to LPV/r in sub-Saharan Africa.

**Methods:** This is a retrospective analysis of patients who were initiated on a standard second line therapy of 2NRTIs plus LPV/r or ATV/r between 01/Jan/2010 and 01/Dec/2014 in a large urban clinic in Uganda. Viral load (VL) monitoring has been made available in 2014; therefore most patients had a VL test done after this. We compared baseline characteristics of patients started on ATV/r and LPV/r and performed logistic regression analysis to determine factors associated with viral failure (VL<400 copies/ml).

**Results:** A total of 285 patients began ATV/r regimen versus 215 on LPV/r. Baseline characteristics for the 2 groups as in the table were not significantly different except median duration on first line.

**Conclusions:** This study showed a generally high level of viral suppression between patient on second line regimens containing ATV/r or LPV/r. We did not find statistical differences in virological outcome of patients started on LPV/r as compared to ATV/r.

---

**Table 1 Safety Overview**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All Subjects (n=424)</th>
<th>TDF/FTC/RPV (n=213)</th>
<th>TDF/FTC/EFV (n=211)</th>
<th>Number of individuals, n [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>All SAEs</td>
<td>16(7.5%)</td>
<td>11(5.2%)</td>
<td>5(2.4%)</td>
<td>16(7.5%)</td>
</tr>
<tr>
<td>At least one DAIDS grade 3 or 4 AE</td>
<td>40(18.8%)</td>
<td>56(26.5%)</td>
<td>92(22.6%)</td>
<td>40(18.8%)</td>
</tr>
<tr>
<td>Fatal AEs</td>
<td>1(0.5%)</td>
<td>0(0.0%)</td>
<td>1(0.5%)</td>
<td>1(0.5%)</td>
</tr>
<tr>
<td>Treatment limiting AEs</td>
<td>8(3.8%)</td>
<td>1(0.5%)</td>
<td>9(2.1%)</td>
<td>8(3.8%)</td>
</tr>
<tr>
<td>At least one diabetes / hyperglycemia event of interest</td>
<td>10(4.7%)</td>
<td>4(1.9%)</td>
<td>14(6.6%)</td>
<td>10(4.7%)</td>
</tr>
<tr>
<td>At least one neuropsychiatric event of interest</td>
<td>60(28.2%)</td>
<td>63(29.9%)</td>
<td>123(29.0%)</td>
<td>60(28.2%)</td>
</tr>
</tbody>
</table>

**Number of individuals, n [%]**

- **SAEs**: 16(7.5%) of 424 individuals were reported. Median duration on first line.
- **Late AEs**: 17 individuals (8.0%) discontinued assigned treatment vs. 10 (4.7%) in the TDF/FTC/EFV arm. Most frequent reasons were: adverse events (3.8% vs. 0.5%), loss to follow-up (0.9% vs. 1.4%) and subject withdrawal (0.9% vs. 1.4%).
THAB0106LB
LOW ACCEPTANCE OF EARLY ANTIRETROVIRAL THERAPY (ART) AMONG POST-PARTUM WOMEN ENROLLED IN IMPACT PROMISE STUDIES ACROSS THE GLOBE

L. Strania-Chiambada1, S. Brummel2, K. Angelidou2, C. Tierney2

L. Strania-Chiambada1, S. Brummel2, K. Angelidou2, C. Tierney2

Background: The PROMISE trials enrolled 5398 asymptomatic HIV-infected pregnant women not eligible for antiretroviral treatment (ART) and randomly assigned different antiretroviral strategies to assess vertical transmission during pregnancy and post-delivery, infant safety, and maternal health. The START study subsequently demonstrated clear benefit in initiating ART regardless of CD4 count. The PROMISE study team informed active participants of these results and strongly recommended women not receiving ART immediately initiate treatment to optimise their own health. We summarize PROMISE participants’ responses to these recommendations and their reasons given to either accept or decline early ART.

Method: We reviewed participants receiving the START information. Staff actively contacted participants to re-engage comprehension. Women not on ART were advised to accept the offer to initiate early ART and randomly assigned to ART from a set of closed options. We report the uptake of early ART and the primary reasons in support of their decisions.

Results: Among the 6485 participants followed for a mean of 3.0 years, the event rates (absolute risk) for the primary endpoint in the immediate and deferred ART arms were 0.6 and 1.38 per 100 PY, respectively, NNT=128. Across all 8 subgroups, HRs consistently favored the immediate arm (Figure). While HRs were similar across subgroups, the deferral strategy. Using proportional hazards models, we estimated hazard ratios (HR) of immediate versus deferred ART within subgroups, and tested for interaction between treatment effect across subgroups.

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Background: The START trial showed that immediate antiretroviral therapy (ART) in asymptomatic adults with ≥500 CD4 cells/mm3 reduces the risk of primary events (a composite of serious AIDS, serious non-AIDS conditions or death) by 57% vs. deferring ART until CD4 ≤ 350. We investigated which subgroups benefitted most from immediate treatment.

Methods: Within subgroups defined by 8 predefined baseline characteristics (Figure), we estimated event rates for the START primary endpoint, and the number needed to treat (NNT) immediately for one year to prevent one event compared with the deferral strategy. Using proportional hazards models, we estimated hazard ratios (HR) of immediate versus deferred ART within subgroups, and tested for interactions between treatment groups and subgroups to assess heterogeneity of the treatment effect across subgroups.

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Conclusions: A substantial number of women were not willing to initiate early ART after a single counselling session. Over one third needed more time to consider the offer to start early ART for their own health. This finding is important to ART programme implementers scaling up test-and-treat strategies.

THAB0201
WHO BENEFITED MOST FROM IMMEDIATE TREATMENT IN START? A SUBGROUP ANALYSIS


INSIGHT START Study Group

1University of Paris Diderot, Paris, France, 2ANRS, Paris, France, 3University of Minnesota, Biostatistics, Minneapolis, United States, 4VA Medical Center, Washington DC, United States, 5University College London Medical School, London, United Kingdom, 6Hospital Escola Sao Francisco de Assis, Rio de Janeiro, Brazil, 7Hospital General de Aguadilla, Puerto Rico, 8The Kirby Institute, Sydney, Australia, 9Institute of Human Virology Nigeria, Abuja, Nigeria, 10University of Witwatersrand, Johannesburg, South Africa, 11Evangelismos General Hospital, Athens, Greece, 12Leicester Royal Infirmary, Leicester, United Kingdom, 13Universitaire Ziekenhuis Gent, Ghent, Belgium, 14Hvidovre University Hospital, Hvidovre, Denmark, 15Slidell, Los Angeles, United States, 16HighHospitals, University of Copenhagen, Copenhagen, Denmark

Background: The START trial showed that immediate antiretroviral therapy (ART) in asymptomatic adults with ≥500 CD4 cells/mm3 reduces the risk of primary events (a composite of serious AIDS, serious non-AIDS conditions or death) by 57% vs. deferring ART until CD4 ≤ 350. We investigated which subgroups benefitted most from immediate treatment.

Methods: Within subgroups defined by 8 predefined baseline characteristics (Figure), we estimated event rates for the START primary endpoint, and the number needed to treat (NNT) immediately for one year to prevent one event compared with the deferral strategy. Using proportional hazards models, we estimated hazard ratios (HR) of immediate versus deferred ART within subgroups, and tested for interactions between treatment groups and subgroups to assess heterogeneity of the treatment effect across subgroups.

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Conclusions: A substantial number of women were not willing to initiate early ART after a single counselling session. Over one third needed more time to consider the offer to start early ART for their own health. This finding is important to ART programme implementers scaling up test-and-treat strategies.
**THBA0202**

**INCREASED RISK OF SUICIDAL BEHAVIOUR WITH USE OF EFAVirenZ: RESULTS FROM the START TRIAL**

A. Arenas-Pinto1, B. Grund2, S. Sharma2, N. Cummins1, J. Fox2, K.L. Klingman1, D. Sedlacek1, S. Collins3, P.M. Flynn3, W.M. Chasanov1, E. Kedem1, C. Kallamal1, J. Sierra-Madero1, V. Ormaesens4, P. Brouwers4, D. Cooper6, for the INSIGHT START Study Group

1University College London, MRC Clinical Trials Unit at UCL, London, United Kingdom, 2University of Minnesota, Division of Biostatistics, Minneapolis, United States, 3Hospital Clinic, Department of Infectious Diseases, Barcelona, Spain, 4Mayo Clinic, Rochester, United States, 5Guy’s and St. Thomas’ NHS Foundation Trust, London, United Kingdom, 6National Institute of Allergy and Infectious Diseases, Division of AIDS (DAIDS), Washington, United States, 7University Hospital Pizen, Pizen, Czech Republic, 8HIV i-Base, London, United Kingdom, 9St. Jude Children’s Research Hospital, Memphis, United States, 10Cooper University Hospital, Camden, United States, 11Rambam Health Care Campus, Clinical Immunology Unit, Haifa, Israel, 12Hospital Pitié-Salpêtrière, Paris, France, 13Instituto Nacional de Cáncer Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico, 14Oslo University Hospital, Oslo, Norway, 15National Institute of Mental Health, Washington, United States, 16The Kirby Institute, Sydney, Australia

**Presenting author email:** a.arenas-pinto@ucl.ac.uk

**Background:** Randomized trials have shown increased risk of suicidality associated with efavirenz (EFV). The START trial randomized ART-naive HIV-positive adults with high CD4 cell counts to immediate versus deferred ART (initiation at CD4 < 350 cells/mm³), EFV-based regimens were common.

**Methods:** We compared the rate of suicide or investigator reported suicidal and self-injurious behaviour (‘suicidal behaviour’) between the immediate versus deferred ART groups using Cox proportional hazards models. Before randomization, the initial ART regimen was pre-specified for each participant. We compared the treatment groups, overall, and separately for those with EFV-containing and EFV free pre-specified regimens using intention to treat (ITT) analyses (all of follow-up and first year), and after censoring participants in the deferred arm at ART initiation.

**Results:** Of the 4685 participants, median age 36 years, 270 (5.8%) had prior psychiatric diagnoses. EFV was pre-specified for 3516 participants (75%); less often in those with psychiatric diagnosis (40%) than without (77%). While the overall ITT comparison shows no difference in suicidal behaviour between immediate and deferred ART (51 events, HR=1.07, p=0.08) (Table), subgroup analyses suggest that those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not. In the deferred group, 13 of 24 those who pre-specified EFV-containing regimens were at an increased risk of suicidal behaviour compared to those who did not.

**Conclusions:** These findings suggest that participants using EFV in the immediate ART group, particularly those with a prior psychiatric diagnosis, had an increased risk of suicidal behaviour compared to ART-naive controls.

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**THBA0203**

**STRIVING to change ART: THE EFFECTS OF ART ON SUICIDACY IN THE HSA AIDS triAL**


1UCLA, Infectious Diseases, Los Angeles, United States, 2Climax Medical Centre, Montreal, Canada, 3Chesterfield Clinic, New Orleans, Louisiana, United States, 4Highland Hospital, Alameda Health System, Oakland, United States, 5Georgetown University, Washington, DC, United States, 6Metropolitan Medical, San Francisco, United States, 7Mape Leaf Research, Toronto, Canada, 8Viiv Healthcare, Research Triangle Park, United States, 9GlaxoSmithKline, London, United Kingdom, 9Viiv Healthcare, London, United Kingdom

**Presenting author email:** michael.x.aboud@viivhealthcare.com

**Background:** STRIVING is a phase 3b, randomized, open-label, North American, 48-week study, which enrolls participants with >500 CD4 cells/mm³ and compares ART-naive adults and those transitioning from the START trial. We report 48-week results of suicidal and self-injurious behaviour.

**Methods:** Participants were randomized 1:1:1 to switch to ABC/DTG/3TC FDC at baseline (early switch, ES) or maintain current ART (CART) with a switch to ABC/DTG/3TC at W24 (late switch, LS). The primary endpoint was non-inferiority (10% margin) of ABC/DTG/3TC relative to CART in maintaining plasma HIV-1 RNA < 50 c/mL at W24 by FDA snapshot. Plasma HIV-1 RNA < 50 c/mL was summarized as a secondary endpoint at W48 after all subjects switched to the DTG-based FDC.

**Results:** A total of 553 participants were randomized and treated (ABC/DTG/3TC 275, CART 278). Baseline characteristics were similar across treatment arms. The primary endpoint of non-inferiority at W24 was met (HIV-1 RNA < 50 c/mL; ABC/DTG/3TC 85% vs. CART 89%). At W24, 210 (75%) of ES subjects were virologically suppressed with HIV-1 RNA < 50 c/mL. The proportion of LS subjects (n=222/244) with HIV-1 RNA < 50 c/mL at W48 was comparable to the proportion at W24 for the ES arm (LS to ABC/DTG/3TC 91%; ES to ABC/DTG/3TC 85%). There were no protocol-defined virologic failures or treatment emergent resistance in either arm. In the ES arm, 10 (4%) subjects withdrew due to AEs in the first 24 weeks of ABC/DTG/3TC; in the LS arm, 4 (2%) withdrew due to AEs following switch to ABC/DTG/3TC.

**Conclusions:** In virologically suppressed patients, switching to once daily ABC/DTG/3TC FDC was non-inferior to continuing CART with no evidence of virologic failure or treatment emergent resistance through 24 weeks. Early switch subjects also maintained virologic suppression from W24 through W48. There were fewer withdrawals due to AEs in the LS vs. ES arm. The safety profile of ABC/DTG/3TC in STRIVING is consistent with current labeling for ABC/DTG/3TC.
Background: The FDC of DTG/ABC/3TC is built upon an unboosted integrase-strand transfer inhibitor (INSTI), and may offer a simplified regimen for the treatment of HIV-1 infection. To gain additional data for women on this regimen, we conducted THAB0205L

Results: Almost all participants experienced some level of side effects associated with LAI ART, mostly temporary soreness at the injection site. Yet, all reported being satisfied and interested in continuing LAI ART. Participants relayed practical and emotional benefits of LAI ART compared to oral ART. Practical benefits included convenience and logistical ease of receiving an injection every 4 or 8 weeks versus a daily pill. In many cases, participants reported LAI ART helped them maintain stigma. LAI ART was seen as more discreet with less possibility of others discovering one's HIV status and it did not involve the "daily reminder of living with HIV". Most participants felt LAI ART could be beneficial to all PLHIV but particularly those with oral ART adherence challenges. While providers recognized the benefits of LAI ART, they expressed concerns LAI ART candidates would still need to be able to adhere to clinic visits for injections and concerns regarding the clinical management of LAI ART if it were necessary to stop the regimen given its long-acting nature.

Conclusions: LAI ART was preferable to a daily oral regimen among PLHIV participating in a Phase IIb trial given its practical and emotional benefits. Further research is needed regarding appropriate candidates for LAI ART including among women and "non-adherent" populations.

THAB0205L

SUPERIOR EFFICACY OF DOLUTEGRAVIR/ABACAVIR/LAMIVUDINE (DTG/ABC/3TC) FIXED DOSE COMBINATION (FDC) COMPARED WITH RITONAVIR (RTV) BOOSTED ATAZANAVIR (ATV) PLUS TENOFOVIR DISPROXIL FUMARATE/EMTRICITABINE (TDF/FTC) IN TREATMENT-NAÏVE WOMEN WITH HIV-1 INFECTION (ARIA STUDY)

C. Orrell1, D. Hagins2, E. Belonosova3, N. Porteiro4, S. Walmsley5, V. Falco6, C. Man7, A. Ayloff8, A. Buchanan9, B. Wynne9, C. Varrey9, M. Aboutorab9, K. Smith1

1University of Cape Town, Desmond Tutu HIV Foundation, Cape Town, South Africa, 2Chatham County Health Department; Savannah, United States, 3Oel Regional Center for AIDS, Oel, Russian Federation, 4Fundacion IDEAA, Buenos Aires, Argentina, 5University Health Network, Toronto, Toronto, Canada, 6Hospital Vall d’Hebron, Barcelona, Spain, 7ViiV Healthcare, Research Triangle Park, United States, 8GlaxoSmithKline, Stockley Park, United Kingdom, 9ViiV Healthcare, Brentford, United Kingdom

Background: In treatment-naïve adult women with HIV-1 RNA ≥500 copies/mL, were randomized (1:1, stratified by plasma HIV-1 RNA and CD4+ count) to 48 weeks of treatment with DTG/ABC/3TC or ATV+RTV/TDF once daily. The primary endpoint was the proportion of women achieving an HIV-1 RNA <50 c/mL at Week 48 (Snapshot algorithm). Women who became pregnant were withdrawn, and where possible offered an option to enter a DTG/ABC/3TC pregnancy study.

Results: 495 women were randomized and treated. Median age was 37 years. Subjects were well matched for demographic and baseline (BL) characteristics. Baseline characteristics were: age (37 years vs. 37 years, p=0.15), race (White 38% vs. 38%, p=0.9), BL CD4+ (345 cells/mm3 vs. 345, p=0.9), median BL HIV-1 RNA (443 copies/mL vs. 443, p=0.9). Baseline CD4+ change at Week 48 was 2.1 mm/mm3 vs. 2.1, p=0.8). Discontinuations due to AE at baseline was 4% vs. 4%. Discretional use of LAI ART was preferable to a daily oral regimen among PLHIV participating in a Phase IIb trial given its practical and emotional benefits. Further research is needed regarding appropriate candidates for LAI ART including among women and “non-adherent” populations.

Conclusions: DTG/ABC/3TC demonstrated superior efficacy and a favorable safety profile compared with ATV+RTV+TDF/TDF in treatment-naïve women after 48 weeks of treatment. The study provides important information to help guide treatment decisions for women.

THAB0206L

CABOTEGRAVIR + RILPIVIRINE AS LONG-ACTING MAINTENANCE THERAPY: LATTICE WEEK 48 RESULTS


1ViiV Healthcare, Dublin, United States, 2Hospital Universitario Bellvitge, Barcelona, United States, 3ICU, Hamburg, Germany, 4Infectiologieum, Frankfurt, Germany, 5The Ottawa Hospital, Ottawa, United States, 6Hospital Universitario de Elche, Alicante, Spain, 7North Texas Infectious Disease Consultants, Dallas, United States, 8GlaxoSmithKline, Mississauga, Canada, 9Pareel, Durham, United States, 10Janssen Research and Development, Beerse, Belgium

Background: Cabotegravir (CAB) and rilpivirine (RPV) are under development as long-acting (LA) injectable nanosuspensions. LATTICE-2 was designed to select an intramuscular (IM) regimen of CAB LA + RPV LA and to evaluate safety and efficacy of 2-drug IM ART, relative to 3-drug oral ART (CAB + ABC/3TC) to maintain viral suppression of HIV-1.

Methods: Phase 2b, multicentre, parallel group, open-label study in ART-naïve HIV infected adults. Enrolled patients with plasma HIV-1 RNA <50 c/mL during the 20-week Induction Period on daily oral CAB 30 mg + ABC/3TC were randomized 2:2:1 to IM CAB LA + RPV LA every 4 weeks (Q4W), every 8 weeks (Q8W), or oral CAB + ABC/3TC (PO) in the Maintenance Period (MP). Dosing regimens were evaluated according to antrival activity, protocol defined virologic failure (PDVF), and safety at the pre-specified Week 48 endpoint in MP (ITT Maintenance Exposed (ME)).

Results:

<table>
<thead>
<tr>
<th>Week 48</th>
<th>CAB LA + RPV LA (n=115)</th>
<th>CAB LA + RPV LA (n=115)</th>
<th>Oral CAB 30 mg + ABC/3TC (n=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-1 RNA &lt;50 c/mL, at W48</td>
<td>92% (2.9 - 6.6, 32.4)</td>
<td>92% (2.9 - 6.6, 11.1)</td>
<td>89%</td>
</tr>
<tr>
<td>Snapshot Virologic Non-response</td>
<td>8% (1 - 1)</td>
<td>1% (1)</td>
<td>12% (2)</td>
</tr>
<tr>
<td>Data in window not &lt;50 c/mL</td>
<td>0%</td>
<td>1% (1)</td>
<td>0%</td>
</tr>
<tr>
<td>Discontinued due to lack of efficacy (PDVF)</td>
<td>0% (0)</td>
<td>1% (1)</td>
<td>0%</td>
</tr>
<tr>
<td>Discontinued due to Other Reasons while Not Suppressed</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Snapshot No Virologic Data</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Discontinued due to AE or Death</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Discontinued due to Other Reasons while Suppressed</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Other Results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Injectors</td>
<td>362</td>
<td>362</td>
<td>316</td>
</tr>
<tr>
<td>Number of ER events</td>
<td>2126</td>
<td>1275</td>
<td>3585</td>
</tr>
<tr>
<td>Grade 1 – mild (%)</td>
<td>1017 (80%)</td>
<td>1568 (84%)</td>
<td>324 (16%)</td>
</tr>
<tr>
<td>Grade 2 – moderate (%)</td>
<td>245 (19%)</td>
<td>234 (15%)</td>
<td>1414 (90%)</td>
</tr>
<tr>
<td>Grade 3 or 4 (%)</td>
<td>1135 (92%)</td>
<td>1568 (84%)</td>
<td>NA</td>
</tr>
<tr>
<td>Median CD4+ cells/mm3</td>
<td>549</td>
<td>499</td>
<td>518</td>
</tr>
<tr>
<td>Change from Baseline at W48 (19)</td>
<td>+248 (152, 347)</td>
<td>+288 (133, 355)</td>
<td>+307 (209, 566)</td>
</tr>
</tbody>
</table>

Conclusions: CAB/LA + RPV/PO demonstrated superior efficacy and a favorable safety profile compared with ATV+RTV+TDF/TDF in treatment-naïve women after 48 weeks of treatment. The study provides important information to help guide treatment decisions for women.
Results: 809 patients were enrolled (ITT-Exposed): 91% male, 20% non-white, and 19%-100,000 c/ml HIV-1 RNA. 286 pts were randomized into the MP. At Week 48, 92% (QBW), 91% (Q4W), and 89% (PO) remained suppressed (ITT-ME). More patients on QBW (5%), relative to Q4W (<1%) and PO (0%) had HIV-1 RNA >50 c/ml at Week 48; 5/6 QBW patients subsequently achieved HIV-1 RNA <50 c/ml. Three MP patients had PDPV during MP (PO [W8], QBW [W4, W8]); one with NRTI/NNRTI mutations (QBW[W4,W8]). Grade 1/2 injection site pain occurred commonly, median duration 3 days, <1% ISR withdraws. MP SAEs occurred in IM (7%) and PO (5%), none drug-related.

Conclusions: Both QBW and Q4W IM dosing demonstrated good virologic response rates and were generally well tolerated through 48 weeks. QBW dosing resulted in modestly lower rates of virologic non-response than QBW. Q4W dosing was chosen for progression into phase 3 studies while QBW and Q4W remain under evaluation within LATTE-2.

THAC01  MSM: DIVERSE REALITIES REQUIRE NUANCED PROGRAMMES

THAC0101 A SMALL PROPORTION OF ACTS OF ANAL INTERCOURSE WITHIN HOMOSEXUAL MALE SERODISCORDANT COUPLES IN THREE COUNTRIES ARE HIGH-RISK FOR HIV TRANSMISSION

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Background: There are few data about the range of strategies used to prevent sexual HIV transmission within homosexual male serodiscordant couples (HM-SDC). At baseline, HIV-positive partners (HPP) had viral load (VL) tested; HIV-negative partners (HNPs) reported the previous three months’ sexual behaviour and perception of the HPP’s last VL test. Each act of condomless anal intercourse (CLAI) was categorised by HIV prevention strategy.

Results: By February 2016, 831 couples were enrolled (Australia=151, Brazil=91, Thailand=89). At baseline, 78.8% of HPPs had undetectable VL (UVL); however, only 55.9% of HNPs perceived their partners to have UVL (64.6% of HPPs who were perceived to have UVL actually did). In the previous three months, 52.2% of couples had CLAI: 46.5%, 28.1%, and 15.7% of HNPs reported insertive CLAI, receptive CLAI with ejaculation respectively. Eighteen HNPs (5.4%) took daily pre-exposure prophylaxis (PrEP). Over the previous three months, HNPs reported a total of 8,439 acts of anal intercourse with their HPP (mean per couple=25.5). Of these, 4,627 (54.8%) were protected by condoms, while there were 3,812 (45.2%) acts of CLAI. Of the CLAI acts, 2,488 (65.3%) were when the HNPs perceived his HPP to have UVL; 94 (2.5%) were protected by PrEP in the HNP; and 244 (6.4%) were protected by perceived UVL in the HPP and PrEP in the HNP. Of the remaining 986 CLAI acts where the perceived VL was detectable or unknown and were not protected by PrEP, 484 were when the HNP was insertive (strategic positioning) and 428 were when the HNP was receptive (277 with withdrawal and 151 with ejaculation). Overall, 53.9% of all anal intercourse acts reported by HNPs were protected by condom use, 33.6% by perceived UVL, 4.2% by PrEP, and 6.0% by strategic positioning; while 3.4% were receptive with withdrawal, and 1.9% were receptive with ejaculation.

Conclusions: Couples used condoms, PrEP or perceived UVL for prevention in the vast majority of anal intercourse acts. Only a very small proportion of events were not protected, and none of the reported condom use involved withdrawal.
Background: Internet-based platforms are increasingly prominent interfaces for sexual networking among men who have sex with men (MSM). We used data among MSM participating in the National HIV Behavioral Surveillance to evaluate changes from 2008 to 2014 in using the internet to meet sex partners and in having met the last sex partner online. We also investigated the association of internet use and partner seeking and testing behavior in 2014.

Methods: MSM were recruited through venue-based sampling in 2008, 2011, and 2014 in 20 U.S. cities. Among men reporting ≥ 1 male partner in the past 12 months, we used log-linked Poisson regression with GEE to calculate adjusted prevalence ratios (APR) and 95% confidence intervals (CI) to compare internet use (IU) to meet sex partners and meeting the last sex partner online by year. Models were adjusted for age, race, and education. We used the Wilcoxon rank sum and chi-square tests to compare factors associated with increased IU. IU was categorized as once a month, once a month but once a week, and once a week.

Results: IU at least once a week increased from 20% in 2008 to 44% in 2014 (APR=2.2, 95% CI: 2.1-1.3). Similarly, having met the last partner online increased from 19% in 2008 to 32% in 2014 (APR=1.7, 95% CI: 1.6-1.8). Median number of partners in the past 12 months increased with increasing IU (6 once a month; median of 2 partners, interquartile range [IQR]: 1-5; 1-2 once a month; IQR: 2-9; 2 once a week; IQR: 3-12, P<.0001). HIV testing in the past 12 months also increased with increasing IU (59%, 68%, and 71%, respectively, P<.0001). While the percent HIV-positive and aware of their status was similar by frequency of IU (16%), the percent HIV-positive but unaware decreased as IU increased (6%, 5%, and 4%, P<.0001).

Conclusions: Both internet use to meet sex partners and meeting the last partner online have increased since 2008. Although men who used the internet more frequently reported more partners, they were also more likely to report testing and were less likely to be HIV-positive but unaware.

**THACO104**

**TRENDS IN INTERNET USE TO MEET SEX PARTNERS AMONG MEN WHO HAVE SEX WITH MEN**

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**Background:** Internet-based platforms are increasingly prominent interfaces for sexual networking among men who have sex with men (MSM). We used data among MSM participating in the National HIV Behavioral Surveillance to evaluate changes from 2008 to 2014 in using the internet to meet sex partners and in having met the last sex partner online. We also investigated the association of internet use and partner seeking and testing behavior in 2014.

**Methods:** MSM were recruited through venue-based sampling in 2008, 2011, and 2014 in 20 U.S. cities. Among men reporting ≥ 1 male partner in the past 12 months, we used log-linked Poisson regression with GEE to calculate adjusted prevalence ratios (APR) and 95% confidence intervals (CI) to compare internet use (IU) to meet sex partners and meeting the last sex partner online by year. Models were adjusted for age, race, and education. We used the Wilcoxon rank sum and chi-square tests to compare factors associated with increased IU. IU was categorized as once a month, once a month but once a week, and once a week.

**Results:** IU at least once a week increased from 20% in 2008 to 44% in 2014 (APR=2.2, 95% CI: 2.1-1.3). Similarly, having met the last partner online increased from 19% in 2008 to 32% in 2014 (APR=1.7, 95% CI: 1.6-1.8). Median number of partners in the past 12 months increased with increasing IU (6 once a month; median of 2 partners, interquartile range [IQR]: 1-5; 1-2 once a month; IQR: 2-9; 2 once a week; IQR: 3-12, P<.0001). HIV testing in the past 12 months also increased with increasing IU (59%, 68%, and 71%, respectively, P<.0001). While the percent HIV-positive and aware of their status was similar by frequency of IU (16%), the percent HIV-positive but unaware decreased as IU increased (6%, 5%, and 4%, P<.0001).

**Conclusions:** Both internet use to meet sex partners and meeting the last partner online have increased since 2008. Although men who used the internet more frequently reported more partners, they were also more likely to report testing and were less likely to be HIV-positive but unaware.

**THACO105LB**

**INCIDENCE AND CORRELATES OF STIs AMONG BLACK MEN WHO HAVE SEX WITH MEN PARTICIPATING IN A US PREP STUDY**

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**Background:** HPTN 073 assessed the feasibility, acceptability, and safety of pre-exposure prophylaxis (PrEP) for Black men who have sex with men (BMSM). Understanding the relationship between PrEP uptake, and sexually transmitted infection (STI) acquisition is critical to informing best practices in PrEP delivery for BMSM, a population most highly affected by HIV in the US.

**Methods:** From August 2013 - September 2014, we enrolled 226 HIV-uninfected BMSM in three cities (Los Angeles, CA; Washington, DC; and Chapel Hill, NC). All participants received client-centered care coordination and were offered daily oral PrEP with emtricitabine/tenofovir. Men were followed for 12 months with scheduled clinical visits and STI testing (rectal and urine NAAT for gonorrhea and chlamydia, RPR for syphilis) at weeks 26 and 52. Logistic regression was used to examine the association between STI prevalence and baseline factors. Person-years (PY) follow-up time was calculated to the first STI event or last STI date from either the PrEP acceptance date or enrollment date depending if BMSM accepted PrEP.

**Results:** Baseline STI prevalence was 14%; no differences were noted among study sites. Men < 25 were more likely to have a baseline STI (25.3% vs. 6.7%; OR 4.39, 95% CI: 1.91, 10.11). Sixty participants (26.5%) acquired ≥1 STI during follow-up, 9 participants had an STI at both follow-up visits. Higher rates of STIs were seen during follow-up among those with STIs at baseline (Table 1). STI rate was 32.8/100 PY (24.3, 43.2) among those who accepted PrEP compared to those who declined 26.8/100 PY (12.9, 49.3).

**Table 1. Characteristics of Incident STIs by PrEP Acceptance and Visit**

<table>
<thead>
<tr>
<th>Week 20</th>
<th>Week 23</th>
<th>Week 21</th>
<th>Week 22</th>
<th>Week 21</th>
<th>Week 22</th>
<th>Week 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accept</td>
<td>% (95% CI)</td>
<td>Accept</td>
<td>% (95% CI)</td>
<td>Accept</td>
<td>% (95% CI)</td>
<td>Accept</td>
</tr>
<tr>
<td>26</td>
<td>28% (17/61)</td>
<td>26% (16/61)</td>
<td>29% (15/51)</td>
<td>29% (15/51)</td>
<td>30% (9/30)</td>
<td>30% (9/30)</td>
</tr>
<tr>
<td>52</td>
<td>29% (17/59)</td>
<td>29% (17/59)</td>
<td>30% (15/50)</td>
<td>30% (15/50)</td>
<td>30% (9/30)</td>
<td>30% (9/30)</td>
</tr>
</tbody>
</table>

**Conclusions:** While we found higher rates of STIs in younger BMSM, the overall rates of STI in this trial were lower than in prior PrEP trials with no increase over time. BMSM with STIs at PrEP initiation may require additional counseling on STI acquisition risk and more frequent STI testing during follow-up.
Lessons learned: Through the support group, 26 young mothers with a mean age of 21.5 (SD = 2.0) have been retained in care from 2012 to 2015. All of the young mothers are on antiretroviral therapy with a median duration of 196 weeks (IQR: 97-332) and 15 of them have remained undetectable viral load (< 20 copies per ml). The programme has seen 18 of the young mothers maintained on first line and 8 receiving second line antiretroviral therapy. We could ascertain post weaning HIV status for 17 of their children, 16 were negative and 1 was positive. Eleven of the young mothers have been treated for sexually transmitted infections from 2012 through to 2015.

Conclusions/Next steps: Perinatally infected young girls are attaining sexual maturity and having children of their own. The prevalence of SIs among this group is very high and is a cause of concern. Creation of support groups for HIV-infected adolescents and their care providers. The objective of this analysis is to describe the national approaches for adolescent disclosure of HIV status and transition to adult care in the countries currently participating in the NH collaborative.

Methods: Data were collected from four national HIV/AIDS programs (Kenya, Zambia, Swaziland, and Lesotho) during a NH technical support workshop in South Africa (November 2015). Data were extracted from country presentations on national approaches and guidelines for disclosure of HIV status and transition to adult care.

Results: All four countries reported initiating partial disclosure (discussing infection without specific naming of HIV) starting at age 4-8 years. Three countries reported full disclosure of HIV status by age 10 years, and three countries require full disclosure before initiating ART and transition to adult care. Among the four countries, only Kenya’s National Adolescent Package of Care included standardized national tools for the transition to adult care. There are no national guidelines for the age of transition, but the reported standard practice ranges are all ≥15 years. All countries have national health strategies for adolescents; however, the focus on adolescents in the national pediatric, adult and consolidated (pediatric and adult) HIV guidelines varies greatly (Table).

<table>
<thead>
<tr>
<th>Country</th>
<th>National Adolescent Health Strategy</th>
<th>Adolescent Focus in National HIV Strategy/Guidelines</th>
<th>Disclosure Partial (PD) or Full (FD)</th>
<th>Transition to adult care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>National Adolescent Package of Care, 2014</td>
<td>Integrated in adult guidelines as a separate chapter referred to as &quot;special population&quot;</td>
<td>PO from 6 years FD by 13-16 years</td>
<td>By 19 years (national transition algorithm and evaluation tools)</td>
</tr>
<tr>
<td>Zambia</td>
<td>Adolescent Health Strategic Plan, 2011-2015; Adolescent Health Communication Strategy, 2013-2015</td>
<td>Included in consolidated pediatric and adult guidelines as separate section in pediatric guidelines</td>
<td>PO from 5 years FD by 10 years</td>
<td>From 15 years</td>
</tr>
<tr>
<td>Swaziland</td>
<td>National Adolescent Health Strategic Plan, 2014-2018</td>
<td>Integrated in both pediatric and adult guidelines “Special Considerations for Adolescents” to address consent, disclosure, and psychosocial support</td>
<td>PO at 4-8 years FD at 8-10 years</td>
<td>By 21 years (19-21 years range)</td>
</tr>
<tr>
<td>Lesotho</td>
<td>National Adolescent Health Strategy, 2012; Draft Adolescent Health Communication Strategy, 2015</td>
<td>Included in consolidated pediatric and adult guidelines as Special Population</td>
<td>PO from 5 years FD from 10 years</td>
<td>By 20 years (15-18 years range)</td>
</tr>
</tbody>
</table>

| (National HIV Strategy and Guidelines by Country)
THAD0104
A COMPARATIVE STUDY OF POLICY AND PRACTICE FACTORS INFLUENCING PROGRESSION THROUGH THE HIV CARE CONTINUUM IN KISUMU AND NAIROBI IN KENYA
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Presenting author email: fateneo@rhrskenya.org

Background: The extent to which national HIV policies are implemented in health facilities in Africa has rarely been described. We describe HIV policy formulation with regards to HIV testing, and access to and retention in HIV care, and investigate the extent to which national HIV policies are implemented in health facilities serving the populations of two health and demographic surveillance sites (HDSSs) in Kenya (Nairobi and Kisumu).

Methods: Twenty national HIV policy documents published between 2003-2013 were reviewed, with policy indicators extracted relating to HIV testing and counselling (HTC), prevention of mother-to-child transmission (PMTCT) and HIV care and treatment. Additionally, facility surveys were conducted in 44 HIV clinics (10 in Nairobi, 34 in Kisumu) serving the HDSS populations. Policy implementation across the HIV care continuum was assessed by comparing reported practices from health facility surveys with findings from the HIV policy review across pre-defined indicators that covered service coverage, quality of care, coordination of care, medical management and patient support.

Results: Explicit policies existed for most aspects of HIV service delivery, and were widely implemented across all facilities, particularly indicators relating to access to treatment and retention in care. There were policy implementation gaps in relation to testing: national guidelines stated that key populations should have tailored access to HTC, but only 16/44 (36%) facilities offered HTC targeted at high-risk groups. In addition, frequent stock-outs of HTC test kits were reported at 50% (5/10) of facilities in Nairobi and 70% (24/34) of facilities in Kisumu. Formulation and implementation of policy relating to Option B+ was weak, with only 20% of facilities in Nairobi (2/10) and 60% (23/34) of facilities in Kisumu offering this as the standard of care for HIV-positive pregnant women.

Conclusions: Levels of policy implementation were similar in the two HDSSs, and service performance in relation to ART access and retention in care was strong. However, weaknesses in relation to quality of care exist along the HIV care continuum, and service access problems were noted in relation to HIV testing. Health facilities are likely to require additional support to ensure delivery of future policies such as "test and treat".

THAD010B
ENGAGING COMMUNITY STAKEHOLDERS IN PREPARATION FOR HIV VACCINE TRIALS
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Background: HIV prevalence among heterosexual women in SSA continues to be highest in the world, with acquisition rates in some locations as high as 6-8% per year. Effective long-acting biomedical HIV prevention options, such as broadly neutralizing antibodies (bnAbs), could significantly reduce HIV incidence. HVTN 703/ HPTN 081 is a phase 2b study evaluating safety, tolerability, and HIV prevention efficacy of VRC01 (a monoclonal bnAb developed by the National Institutes of Health Vaccine Research Center) among heterosexual women in SSA. Engaging community stakeholders prior to study initiation fosters researcher-stakeholder partnerships and is essential to facilitate community awareness, understanding, and support particularly for complex experimental biomedical studies.

Description: In March 2016, the South African Medical Research Council (SAMRC), HPTN, and HVTN convened a stakeholder meeting with 85 attendees from seven SSA countries and the United States, including representatives from IBAs, community/research health clinics, traditional healing communities, governmental and non-governmental organizations, advocacy organizations, and community advisory boards. The consultation facilitated diverse audience dialogue, detailed explanation of intricate biomedical concepts such as bnAbs and monoclonal antibody infusions, and stakeholder questions and recommendations about HVTN 703/HPTN 081 implementation prior to initiation.

Lessons learned: Based on experience and knowledge of community norms, attendees discussed facilitators and barriers to study participation, including understanding the complex concept of monoclonal antibodies. Interactive, participatory processes enabled stakeholders to express considerations regarding the women-only trial design and the evolving role of PrEP in HIV prevention efficacy trials in SSA. Researchers were encouraged to consider the feasibility of intravenous (IV) administration of VRC01. While HVTN 703/HPTN 081 is a proof of concept study, participants felt strongly that if VRC01 was found efficacious it should move to censure while more efficient bnAb delivery systems (e.g. subcutaneous injections) and vaccines are explored.

Conclusions/Next steps: The SAMRC, HPTN, and HVTN recognize that trial success requires local implementers, potential participants, and advocates as partners with trial designers. These partnerships facilitate early ownership of the research by key decision-makers and policy makers. This inclusion enables generous local insight into successful implementation of complex biomedical HIV prevention interventions and adds value of transparent, authentic dialogue about a wide range of trial considerations.

THAD0105
BARRIERS IN ACCESS TO HEALTH SERVICES FOR PEOPLE LIVING WITH HIV IN MOLDOVA
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Background: The purpose: to establish levels of access to health services of people living with HIV (PLHIV) through Tanahashi dimensions of access: availability, accessibility, acceptability, contact and effective coverage with services and compare them to general population (where available). Findings will be used to inform specific interventions to reduce barriers in access to services.

Methods: Study design: quantitative cross-sectional study based on face-to-face interviews. Study population: 450 PLHIV over 18 years, recruited through community groups and service provision points, sampling based on quotas regarding geographic distribution, age, gender.

Results: The study included 45% women 55% men; mean age 36 years, 63% urban, 37% rural, 41% employed, 36% unemployed, and 23% economically inactive respondents. Geographic accessibility was high: 96% had access to a primary care doctor in their locality, lower in rural residents (44%). Financial accessibility was lower than in general population: 55% had health insurance versus 83% in the general population, main reason being unemployment (86%) and 56% had to renounce seeking health services due to anticipated costs, almost twice higher than in the general population (30%), with higher shares among women (61%), age over 40 years (62%) and urban residents (62%). General acceptability of general health services was high: positive attitudes at 86%, but only 30% of PLWH disclosed their HIV status to their last general health provider. Compared to general population, respondents seek health services more often, as 50% saw a health provider compared to 21% in the general population. Of them, 65% were prescribed medicines and 44% women and 52% did not buy prescribed medicines due to costs. Coverage with HIV-related treatment was high, as 97% saw an HIV provider and 74% were on ART.

Conclusions: While access to HIV care and treatment was high, the study identified specific systemic barriers in access to general health services of PLWH compared to general population, such as higher economic barriers. These call for structural solutions, such as increasing access to health insurance and decreasing private expenditures for medicines, in order to increase effective coverage with health services overall.

THADO2A
ENGAGING COMMUNITY STAKEHOLDERS IN PREPARATION FOR HIV VACCINE TRIALS NETWORK (HVTN) 703/HIV PREVENTION TRIALS NETWORK (HPTN) 081, AN ANTIBODY MEDIATED BIO MEDICAL HIV PREVENTION TRIAL IN SUB-SAHARAN AFRICA (SSA)
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1London School of Hygiene and Tropical Medicine, London, United Kingdom, 2Center for Health Policies and Studies, Chisinau, Moldova, Republic of, 3Consultant, Nairobi, Kenya

Background: A standardized approach based on the best available evidence is needed to guide adolescent HIV care on a national level in resource-limited settings. Informed by this analysis, the NH collaborative is developing capacity building tools on disclosure and transition to adult care to be shared among national programs participating in NH activities, and globally.
**THAD02 CASH AND CARE: ECONOMIC EMPOWERMENT FOR HIV PREVENTION**

**THAD0201**

A RANDOMIZED STUDY OF SHORT-TERM CONDITIONAL CASH AND FOOD ASSISTANCE TO IMPROVE ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG FOOD INSECURE ADULTS WITH HIV INFECTION IN TANZANIA

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1University of California, Berkeley, Berkeley, United States; 4Ministry of Health and Social Welfare, Dar es Salaam, Tanzania, United Republic of; 3Health for a Prosperous Nation, Dar es Salaam, Tanzania, United Republic of; 2Regional Medical Office, Shinyanga, Tanzania, United Republic of; 5London School of Hygiene & Tropical Medicine, London, United Kingdom

**Background:** Food insecurity is a barrier to antiretroviral therapy adherence and retention in care among people living with HIV infection (PLHIV). We evaluated the effectiveness of short-term cash and food assistance to mitigate food insecurity and improve adherence and retention among PLHIV in Shinyanga, Tanzania.

**Methods:** At three HIV care and treatment facilities, 805 participants were randomized into one of three arms in a 3:3:1 ratio, stratified by site: nutrition assessment using Household Hunger Scale. Cash or food transfers were provided for ≤6 months, conditional on visit attendance. Participants were followed for 6 months to determine adherence measured by the medication possession ratio (MPR) and scheduled appointment adherence.

**Results:** At enrollment, 64% of participants were female, average age was 37 years, mean CD4 count was 213 cells/mL, and mean body mass index was 21.4 kg/m². Food security increased significantly among all participants at 6 months and was non-significantly higher among NAC-food (60%) and NAC-cash groups (41%) compared to NAC only (31%, p=0.41). Six-month adherence data were available for 789 participants (98% of study cohort). In an intent-to-treat analysis adjusted for state and multiple comparisons, MPR was significantly higher among those randomised to NAC-cash (n=247, MPR=92%) compared to NAC-food (n=338, MPR=78%, p=0.01) and NAC only (n=104, MPR=71%, p<0.01). Achievement of MPR≥95% was non-significantly higher in the NAC-cash group (57%) compared to the NAC-food group (50%, p=0.13) and NAC only group (46%, p=0.13). Appointment adherence was 81% overall and significantly higher among those randomised to NAC-cash (83%) compared to those in the NAC-food (75%, p<0.01) and NAC only (71%, p<0.01) groups.

**Conclusions:** Preliminary data indicate that short-term conditional cash assistance may improve medication possession and appointment adherence better than food assistance and NAC alone among food-insecure PLHIV initiating treatment in Tanzania. Future studies are needed to investigate the optimal size and conditions of financial incentives, cost effectiveness, and whether benefits are sustained.

**THAD0202**

ECONOMIC EMPOWERMENT OF SEX WORKERS TO IMPROVE THEIR HEALTH, SAFETY AND WELLBEING: INNOVATIVE INTERVENTIONS AND LESSONS LEARNED FROM THE STEPPING UP, STEPPING OUT PROGRAM

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**Background:** Worldwide countless women and men earn money through sex work. They are twice as likely to be living with HIV compared to the general population. However, sex workers who are more empowered to access additional sources of income and have more control over their financial resources, are better able to negotiate safe sex, extricate themselves from violent clients and access health and support services. It also improves their financial security and livelihood during times they cannot work.

**Description:** As part of Aids Fonds’ Stepping Up, Stepping Out (SUSO) program, a variety of innovative economic empowerment interventions were developed by sex worker-led organizations in 120 countries in Africa, Asia and Latin America, reaching over 2,500 sex workers. One of the interventions is a savings and credit cooperation, giving sex workers the opportunity to save up and take loans for investments. The concept was implemented in Kenya by HOYMAS (Health Options for Young Men on HIV, AIDS and STIs) and in Indonesia by OPSI (Organisasi Perubahan Sosial Indonesia).

**Lessons learned:** In both countries the cooperative is run by sex workers. Funds can be accessed by sex workers who have 1) completed a financial skills training and 2) made regular savings in their account. The experience in Kenya showed that for sustainable results, developing the habit of saving proved more important than the amount saved. In Indonesia we learned that repayment schemes of loans will vary as not all types of investment become profitable equally fast. Not taking this reality into account could lead people into further debt. While in both countries the cooperation required focus and determination of the people involved, it provided them with an opportunity to turn their dreams into reality.

**Conclusions/Next steps:** Economic empowerment is a powerful strategy to reduce sex workers’ vulnerability to HIV. The following elements are essential (confirmed by the Dutch Radboud University that evaluated SUSO):

- Alternative sources of income outside the sex industry are not necessarily required. Earning more from sex work in better working conditions is also economic empowerment.
- Economic empowerment increases sex workers’ self-esteem.
- Basic financial skills are a pre-condition for the success of other economic empowerment interventions.

**THAD0203**

EXPLORING THE CONSEQUENCES OF CASH TRANSFERS FOR ADOlescent BOYS AND GIRLS IN INNER CITY JOHANNESBURG

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**Background:** Cash transfers (CTs) are increasingly being explored as a structural approach for HIV prevention. While there is much interest in expanding CT programmes to leverage health-related (including HIV) outcomes, there are few available data on the potential social consequences of offering CTs to adolescent boys and girls. This paper explores the consequences of CTs on adolescent recipients.

**Methods:** Using qualitative data collected during a pilot randomized controlled trial of three different cash transfer strategies (monthly payments unconditioned vs. conditioned on school attendance vs. a single direct payment conditioned on a clinic visit) conducted in 120 consenting adolescents aged ≥16 years in the inner-city of Johannesburg. In-depth interviews were conducted with a sub-sample of 41 participants (18 girls and 23 boys), 6 months after receiving CT and up to 12 months after the cash was withdrawn. Interviews were conducted in English/ IsiZulu, transcribed and translated by two trained fieldworkers. Codes were generated using an inductive approach; initial transcripts were coded based on emerging issues, and subsequently transcripts coded deductively. Atlas-ti 7.5 was used to organize and code data.

**Results:** Overall, CTs were highly acceptable to recipients, they were used for personal items and reduced household stress. This was interpreted by recipients as a means to turn their dreams into reality.

**Conclusions:** Less research in the field and the different contexts may vary as not all types of investment become profitable equally fast. Not taking this reality into account could lead people into further debt. While in both countries the cooperation required focus and determination of the people involved, it provided them with an opportunity to turn their dreams into reality.
THAD0204  
**SUPERVISION, SCHOOL, AND ADOLESCENT-SENSITIVE CLINIC CARE: REDUCING UNPROTECTED SEX AMONG HIV-POSITIVE ADOLESCENTS THROUGH COMBINATION SOCIAL PROTECTION INTERVENTIONS**

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**Background:** Each day, 440 new adolescent HIV-infections happen in sub-Saharan Africa: preventing onward transmission presents a powerful challenge to HIV-positive adolescents. There is very limited evidence on interventions that reduce sexual risk-taking among HIV-positive adolescents.

**Methods:** ART-initiated adolescents (10-19 years old) from 53 government facilities in South Africa: 1,059 were interviewed (90.1% of eligible sample, 4.1% refused, the rest excluded due to: severe cognitive delays (0.9%), other reasons (1.2%) and could not be traced (3.7%)). Voluntary informed consent from adolescents and caregivers was obtained. Potential social protection included nine “cash/cash-in-kind” and “care” provisions. Analyses used multivariate logistic regression, controlling for adolescent age, gender, location, informal housing, vertical/horizontal infection, and caregiving arrangement. Potential interactive and additive effects of combinations were tested in logistic regressions and marginal effects models.

**Results:** Adolescents reported high rates of unprotected sex: 18% in the full sample, and 28% among girls. In the final model, adolescents reported lower rates of unprotected sex if they received strong parental supervision (OR=61 CI.38-.98 p<0.041), had access to school (OR=5.3 CI.35-.81 p<0.003), and received adolescent-sensitive care when accessing sexual health services (OR=2.15-.71 p<0.001). There were no interactive effects. In marginal effect models, receiving more than one social protection provision had an additive effect on predicted probabilities of unprotected sex rates, controlling for covariates (chart). This effect was even stronger among adolescent girls: without any interventions 49% were likely to report unprotected sex rates, controlling for covariates (chart). This effect was even stronger among HIV-positive adolescents. There is very limited evidence on interventions that reduce sexual risk-taking among HIV-positive adolescents.

**Conclusions:** Social protection interventions can increase safe sex among HIV-positive adolescents, particularly among HIV-positive adolescent girls. Single interventions may not suffice to address the sexual health needs of this highly vulnerable population as they transition from adolescence to adulthood.

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THAD0205  
**EQUITY IN ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG ECONOMICALLY- VULNERABLE ADOLESCENTS LIVING WITH HIV IN UGANDA**

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**Background:** Studies from sub-Saharan Africa indicate that children made vulnerable by poverty have been disproportionately affected by HIV with many exposed via mother-to-child transmission. Yet, for youth living with HIV, adherence to life saving treatment regimens are likely to be affected by a complex set of economic and social circumstances that challenge their families and exacerbate health problems.

**Methods:** Using baseline data from the National Institute of Child and Human Development (NICHD) funded Suubi+Adherence study, bivariate and multivariate regression analyses were employed to examine the extent to which measures of economic and social equity were associated with self-reported adherence among Ugandan adolescents aged 10-16 (n = 702) living with HIV.

**Results:** Greater asset ownership, specifically familial possession of seven or more tangible assets, was associated with greater odds of self-reported adherence (OR 1.69, 95% CI: 1.00-2.85). Our analyses also indicated that distance to the nearest health clinic impacts youth’s adherence to an ARV regimen. Youth who reported living nearest to a clinic were significantly more likely to report optimal adherence (OR 1.49, 95% CI: 0.92-2.40). Moreover, applying the composite equity scores, we found that adolescents with greater economic advantage in ownership of household assets, financial savings, and caregiver employment had higher odds of adherence by a factor of 1.70 (95% CI: 1.07-2.70).

**Conclusions:** These findings suggest that economic and social determinants of adherence be given due priority in the design and development of programs affecting youth with HIV in sub-Saharan Africa. Specifically, interventions that aim to improve financial assets, enable participation in formal financial institutions; and provide geographically closer HIV treatment services such as through mobile clinics may offer promising returns for greater equity in ARV uptake and adherence among adolescent populations living in low resource environments.

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THAE01  **FINANCING THE RESPONSE TO HIV: SHOW US THE MONEY**

**THAE0102  THE IMPLICATIONS OF MACROECONOMIC STABILITY ON ACHIEVING SUSTAINABLE, DOMESTIC FINANCING FOR HIV IN ZAMBIA**

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**Background:** Zambia’s reclassification as a lower-middle-income country in 2011 underscored its need to begin transitioning to more sustainable, domestic sources of HIV financing. Nonetheless, at US$366 in 2015, donor contribution per PLHIV remains among the highest in Sub-Saharan Africa. Donor funding for HIV in Zambia declined for the first time in 2015, a trend likely to continue as the Zambian government (GRZ) is asked to take greater ownership of the country’s HIV response.

**Methods:** The USAID- and PEPFAR-funded Health Policy Project performed detailed secondary analysis of GRZ’s budgets for 2012-2015. Two types of line items were allocated to the total budget for HIV: HIV-specific items, including anti-retroviral (ARV) procurement, HIV mainstreaming and awareness, and the National AIDS Council, all allocated at 100%; and health systems line items, including salaries for health workers, administrative costs, and development activities, all allocated at approximately 22% based on Clinton Health Access Initiative’s estimates of the human resource requirement of current treatment targets.

**Results:** Between 2012 and 2015, GRZ’s contribution to Zambia’s HIV response increased nominally from ZMW488 million to ZMW965 million. The budget for ARV procurement increased from ZMW50 million to ZMW226 million, while salaries for the proportion of health worker time (22%) allocated to HIV care and treatment grew from ZMW223 million to ZMW501 million. However, during this period, the kwacha (ZMW) depreciated by 60 percent against the US dollar from 5.14 ZMW/US$ to 8.62 ZMW/US$. In real terms, GRZ’s HIV budget grew by just 5.6% annually.

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(Figure. % predicted probabilities of unprotected sex among HIV-positive adolescents by access to social protection interventions (controlling for socio-demographic co-factors))
from 2012 to 2015 and in fact declined by 26% between 2014 and 2015.

Conclusions: Zambia’s macroeconomic instability, driven largely by falling global prices for copper, which accounts for 10% of the country’s GDP and 70% of export earnings, threatens the sustainability of domestic sources for HIV financing. Although total donor funding has plateaued since 2012, the resource requirement to reach the 90-90-90 targets is expected to grow from US$8 million in 2016 to US$144 million in 2020. Therefore, preserving the value of existing streams of financing and identifying new sources of domestic funding has never been more important to maintain and build upon the gains already made.

THAE0103
AN HIV/AIDS INVESTMENT CASE FOR NAMIBIA: HEALTH IMPACTS AND RESOURCE NEEDS FOR ALTERNATIVE PROGRAM SCALE-UP PACKAGES OVER 2016-2030


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Background: As ART coverage and cost grow while donor funding falls, Namibia must strategize its intervention package to ensure sustainability and maximize impact. We projected impacts and costs over 2016-2030 for scenarios: Constant coverage at 2015 levels; National Strategic Framework (NSF) 2017 targets; Maximum scale-up aligned with UNAIDS Fast Track targets; and Resource-constrained optimization with and without technical efficiencies.

Methods: The dynamic Spectrum-Goals model was fitted to surveillance, survey and programmatic data. Scenarios varied in coverage of FSW and MSM outreach, workplace intervention, ART (82% of CD4<500) from 2017 in NSF and Optimized scenarios, to 90% of all PLWH by 2030 in Maximum). Voluntary male medical circumcision, community mobilization, mass media, condom promotion, youth outreach, PMTCT and post-exposure prophylaxis were scaled-up without variations across scenarios. Unit costs for HIV prevention and treatment services varied over time with economic context; program support costs increased less-than-linearly with service costs. Maximum and Technical efficiency scenarios assumed that viral suppression and infectivity reduction during ART improved from 75% to 2015 to 95% by 2030. Optimization followed intervention-specific cost per infection averted over 2015-2030.

Results: Maximum and Optimized scenarios with technical efficiency could reduce annual new infections by 50% over 2015–2030. Only Maximum scale-up reduced annual HIV/AIDS deaths by almost 50% by 2030. Optimization with technical efficiencies, by prioritizing FSW and ART for lower-CD4 patients while rationalizing HIV testing and workplace prevention, reduced new infections by 35% at 2030, compared to NSF. Annual resource need increased from US$190 million in 2015, to US$231-252 million for NSF and Optimized, and US$257 million for Maximum by 2020.

Conclusions: By optimizing the NSF, Namibia could considerably enhance health impacts while containing cost within expected budgets. Reaching Fast Track targets will require increasing (domestic) financing.

THAE0104
POTENTIAL DOMESTIC SOURCE FINANCING FOR SCALING UP ANTIRETROVIRAL THERAPY IN 97 COUNTRIES FROM 2015 TO 2020

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Background: Recent global initiatives such as 90-90-90 focus on rapidly scaling up antiretroviral therapy (ART). Substantial additional resources will be needed, and there is increased emphasis on shared responsibility and mobilizing domestic resources. Few studies have projected domestic resources available for ART specifically and the potential funding gap.

Methods: In a study by the USAID-and-PEPFAR-funded Health Policy Project, we estimated financial resources available to meet facility-level ART service delivery costs in 97 non-OECD countries with significant HIV epidemics based on country-specific funding trends from the Global Fund, PEPFAR and domestic contributions (DCs). DCs were based on publicly known country-reported procurement estimates, Global Fund’s counterpart financing thresholds, and proportional contributions to HIV responses as reported to UNAIDS. Separately, we modeled uncertainty in the annual resource requirements for antiretroviral drugs, laboratory tests, and facility-level personnel and overhead, and compared the financial requirements to all sources of estimated funding.

Results: We estimated that these countries can contribute US$6.2 billion in domestic resources to ART commodity procurement and US$13.5 billion for site-level overhead and personnel from 2015 to 2020 if ART eligibility is expanded to all people living with HIV, ART coverage increases in line with recent trends, and current funding obligations remain constant. Under optimistic assumptions, DCs could account for the majority of site-level resources available for ART in Eastern and Southern Africa (68%), Asia and the Pacific (88%), Eastern Europe and Central Asia (96%), Latin America and the Caribbean (51%), and the Middle East and North Africa (80%). West and Central Africa would see only 24% from these sources. The six-year funding gap for reaching 90-90-90 is estimated to be US$224.2 to US$225 billion, depending on PEPFAR contributions, and the estimated commodity gap alone is US$16.8 billion.

Conclusions: Additional resource mobilization from domestic or innovative financing sources or efficiency gain is needed to meet global ART targets.
A. Naeveke3, M. Warren1

focused on ending AIDS as part of a public health approach, it is critical to ensure

innovative concepts to the HIV prevention research agenda. With a shift in the fund

investment base could provide a critical range of perspectives, human capacity and

dation accounting for over 80 percent of all funding. Expanding and diversifying the

Conclusions:

while funding towards microbicides decreased as ongoing efficacy trials began to

tion research reflected slight increases in US and private sector funding. With two

Results:

-to estimate annual investment in HIV prevention R&D. Investment trends were as

clinical trials, trial preparation, community education and policy advocacy efforts

bursements by public, private and philanthropic funders for product development,

of individual funders supported HIV prevention research

and when those other services could be accessed. Clinic hours and provider avail

ability were also identified as hindering FP service provision for ART clients. Almost

half (44%) of the facilities reported stockouts or expirations of FP commodities in

although national policies support FP-HIV integration, systems at facil

and when those other services could be accessed. Clinic hours and provider avail

ers said they had time to counsel ART clients on FP , only 14% of clients reported

ers had separate registers or had no mechanism for documenting FP provision. About one-

on hand; only 20% had a range of four or more types of contraceptives available.

reported ARV stockouts.

Results:

interviews.

Data were collected from a purposive sample of 41 public and private

facilities across nine districts of Malawi. Facilities ranged from large high-volume

hospitals to small health posts. Data collectors conducted 41 facility audits, 41 in-

terviews with facility in-charges, 122 interviews with providers, and 425 client exit

Methods:

Background: The HIV Vaccine & Microbicides Resource Tracking Working Group

The 2011 national HIV clinical management guidelines recommended provider-initiated FP counseling (PIFP) and provision of condoms and injectables at ART settings. The USAID- and PEPFAR-funded Health Policy Project’s 2015 study as-

sessed the extent of integration occurring at the facility level, with special attention to

identifying systems-level barriers.

Methods:

Results: While 85% of ART clinics had condoms available, only 31% had injectables

on hand; only 20% had a range of four or more types of contraceptives available.

Fewer than half of the ART registers were tracking FP provision; the rest either kept

separate registers or had no mechanism for documenting FP provision. About one-

fifth of providers working at these facilities had no FP training, and only one-quarter

had received any training on FP-HIV integration specifically. Although 93% of provid-

ers said they had time to counsel ART clients on FP , only 14% of clients reported

being asked about their fertility intentions or FP on that day’s visit. Even though

providers reported referring out for FP , few knew detailed information about where

and those other services could be accessed. Clinic hours and provider avail-

availability were also identified as hindering FP service provision for ART clients. Almost

(44%) of the facilities reported stockouts or expirations of FP commodities in

the past three months; one-third reported stockouts of HCT kits and one-quarter

reported ARV stockouts.

Conclusions: Although national policies support FP-HIV integration, systems at facility

level are not yet adequate to fully implement integration. The study and analysis offer recommendations for how facilities can improve their organization of services, strengthen both internal and external referral processes, increase training of pro-

viders on PIFP, improve patient registers and other M&E systems to better capture

information and address both FP and HIV commodity and supply stockouts.

HIV PREVENTION RESEARCH & DEVELOPMENT FUNDING TRENDS 2000-2015: TRACKING INVESTMENT FLOWS FROM RESEARCH TO ROLLOUT OF NEW PREVENTION TECHNOLOGIES

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Background: The HIV Vaccine & Microbicides Resource Tracking Working Group tracked year-to-year and long-term trends in research and development (R&D) in-

vestments and expenditures for biomedical HIV prevention, including HIV vaccines, microbicides, pre-exposure prophylaxis (PrEP), treatment as prevention and medi-

cal male circumcision from 2000 to 2015.

Methods: R&D data were collected via annual surveys and direct outreach on dis-

bursements by public, private and philanthropic funders for product development, clinical trials, trial preparation, community education and policy advocacy efforts to estimate annual investment in HIV prevention R&D. Investment trends were as-

sessed and compared by year, prevention type, research phase, funder category and geographic location.

Results: The Working Group collated and analyzed 2015 data for all areas of HIV prevention R&D. The Group found that in 2015 overall investment in HIV preven-

tion research reflected slight increases in US and private sector funding. With two phase II vaccine trials starting in 2015 funding for vaccines increased marginally, while funding towards microbicides decreased as ongoing efficacy trials began to wind down. In 2014, the Working Group began collecting data on PrEP implementa-

tion research and funding increased from 2014 to 2015 with several demonstration projects beginning in 2015.

Conclusions: Overall, fewer individual funders supported HIV prevention research than in previous years, with the US public sector and the Bill & Melinda Gates Foun-

dation accounting for over 80 percent of all funding. Expanding and diversifying the

investment base could provide a critical range of perspectives, human capacity and

innovative concepts to the HIV prevention research agenda. With a shift in the fund-

ing formula for AIDS at the US NIH and adoption of Sustainable Development Goals

focused on ending AIDS as part of a public health approach, it is critical to ensure continued prioritization of HIV prevention R&D on the US and global development agenda by evaluating research in the context of public, private and philanthropic

funding. Mapping of funding trends is critical as HIV prevention R&D progresses through the pipeline from research to rollout to identify investment needs, priori-

itize research areas, assess impact of public policies that affect spending levels and provide the fact base for advocacy to sustain investments.
THEA0205
ONE-STOP SHOPPING FOR TB AND HIV SERVICES IMPROVED INITIATION OF ANTIRETROVIRAL THERAPY FOR PATIENTS WHO ARE CO-INFECTED IN EASTERN UGANDA
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Background: Initiation of antiretroviral therapy (ART) for patients co-infected with HIV and TB is low in certain districts of Eastern Uganda. One way to improve this is a one-stop shop where TB and HIV co-infected patients access a full package of services at one location.
Description: Strengthening TB and HIV & AIDS Responses in Eastern Uganda (STAR-E), a USAID project funded by PEPFAR and implemented by Management Sciences for Health, supported a health facility-based intervention in TB treatment sites in Kapchorwa District between January-September 2015. The project provided on-site mentorship to 15 health workers at 5 health facilities on implementing a “one-stop shop” model for treating TB/HIV co-infected patients. Health workers from the TB clinic, ART clinic, and mother-baby care point were mentored on the Uganda national guidelines for treating TB/HIV co-infection, and given job aids, guidelines, and diagnostic charts. The health workers then mentored others. Data was collected at baseline and during implementation.
Lessons learned: Following establishment of the one-stop shop approach, the percent of TB/HIV co-infected patients on ART increased from 42% to 100% (see Table).

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Total cases detected</th>
<th>Tested for HIV</th>
<th>% who tested</th>
<th>HIV+</th>
<th>% HIV+</th>
<th>CPT</th>
<th>% on ART</th>
<th>ARV</th>
<th>% on ART</th>
</tr>
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<tr>
<td>Oct-Dec 2014</td>
<td>30</td>
<td>28</td>
<td>93%</td>
<td>19</td>
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<td>19</td>
<td>100%</td>
<td>8</td>
<td>42%</td>
</tr>
<tr>
<td>Jan-Mar 2015</td>
<td>32</td>
<td>32</td>
<td>100%</td>
<td>16</td>
<td>50.0%</td>
<td>16</td>
<td>100%</td>
<td>14</td>
<td>88%</td>
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<td>Apr-Jun 2015</td>
<td>23</td>
<td>23</td>
<td>100%</td>
<td>15</td>
<td>65.2%</td>
<td>15</td>
<td>100%</td>
<td>13</td>
<td>87%</td>
</tr>
<tr>
<td>Jul-Sep 2015</td>
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<td>100%</td>
<td>13</td>
<td>44.8%</td>
<td>13</td>
<td>100%</td>
<td>13</td>
<td>100%</td>
</tr>
</tbody>
</table>

(TB/HIV Treatment - Oct 2014 to Sep 2015)

Provision of TB/HIV co-infected treatment services with the one-stop shop approach increased co-infected patients’ initiation of ART.

Conclusions/Next steps: Continued implementation of vertical HIV/AIDS and TB programs that treat each disease separately is inadequate and should be replaced by new models of care that integrate services and maximize efficient use of already-limited resources. This intervention indicates integration may be effective for timely initiation of ART amongst TB patients in a low resource rural African setting. Scale up of this approach to health facilities providing TB/HIV services should be considered.

THEA0204
SCREENING FOR HYPERTENSION AND DIABETES AT THE TIME OF HIV TESTING IN UMLAZI TOWNSHIP, DURBAN, SOUTH AFRICA
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Background: The South African HIV treatment guidelines recommend screening for hypertension and diabetes before initiation of antiretroviral therapy. Our objective was to assess the prevalence and risk factors for hypertension and diabetes at HIV testing in Durban.

Methods: We enrolled adults (≥18 years) presenting for voluntary HIV testing at a high-volume clinic in Umlazi Township. We asked about mode of transport to clinic (walk, public bus/taxi, car), and measured a seated blood pressure before rapid HIV testing. Among those HIV-infected, we measured height, weight and random glucose by point-of-care glucometer. We defined hypertension as systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥90 mmHg. We defined likely diabetes as random blood glucose ≥11.1 mmol/L and likely impaired glucose tolerance (IGT) or prediabetes as ≥7.8 to <11.1 mmol/L (based on International Diabetes Federation definition 2 hours post a 75g oral glucose load). We defined obesity as body mass index ≥30kg/m². We used separate multivariate logistic regression models to determine risk factors for hypertension and IGT/diabetes among HIV-infected participants.

Results: Among 3,082 enrollees, 1,572 (51%) were female and 1,170 (38%) were HIV-infected, with median CD4 count 299/μL (IQR 154-659). The majority (78%) walked to clinic; 22% took a public bus/taxi and <1% arrived by car. HIV-uninfected participants were less likely to have hypertension (6%, 118/1799) compared to HIV-infected participants (13%, 157/1,153, p<0.001). Among HIV-infected participants, 4% (21/492) met criteria for likely IGT or diabetes and 20% (100/492) were obese. Adjusting for gender, age ≥35 (OR 2.5, 95% CI 1.4-4.4, compared age <25) and BMI ≥30 (OR 2.1, 95% CI 1.4-3.1) were associated with hypertension. Adjusting for obesity, not walking to clinic (OR 2.9, 95% CI 1.2-7.1, as compared to walking) and hypertension (OR 2.8, 95% CI 1.0-7.5) were associated with IGT/diabetes.

Conclusions: Screening for hypertension and diabetes was high-yield in a Durban HIV clinic. Traveling to clinic by public bus/taxi or car instead of walking, which may be a marker for low physical activity, was associated with nearly triple the odds of IGT/diabetes. Screening for chronic non-communicable diseases can be successfully performed at the time of HIV testing in resource-limited settings.

THAE0206
PROMISING PRACTICE: INTEGRATING GENDER AND GENDER-BASED VIOLENCE INTO COMMUNITY-BASED ORGANIZATIONS CAPACITY BUILDING, HIV PREVENTION, COUNSELLING AND TESTING PROGRAMS
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Background: In Mozambique, HIV prevalence is 13.1% for women, 9.2% for men, 1 in 3 women experience physical violence; 12% of women over 15 experience sexual violence. Risk factors include early marriage, transactional sex, and male dominance in decision making. Under the PEPFAR Gender-based Violence Initiative, USAID/Mozambique supported the Capable Partners Program (CAP) to scale up GBV prevention within their capacity building program. CAP and the Health Policy Project provided training and technical assistance to help six CBOS design and implement social and behavioural change communication activities that address gender norms/GBV and HIV together.

CBOS organized series of 8-12 small group debates addressing gender-based risk factors and barriers to HIV prevention and testing. CAP developed videos to spur meaningful dialogues and ensured quality activities. Interventions aimed at preventing sexual transmission of HIV and promoting HIV testing reached 70,892 women and men ages 15-49 in four provinces during 2012-2015.
Conclusions: Community-based interventions that integrate GBV with HIV prevention are positively associated with more balanced community gender norms and lead to increased preventive behaviors.

THAE032

ANTICIPATED REDUCTIONS IN LONG-TERM TUBERCULOSIS INCIDENCE AND ASSOCIATED COST SAVINGS WITH ADOPTION OF THE TREAT ALL PEOPLE LIVING WITH HIV POLICY IN BOTSWANA, 2016-2035

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Background: Botswana is a high tuberculosis (TB)/HIV burden country with the second highest HIV prevalence in the world of 18.5% in the general population, an estimated TB incidence of 385 cases per 100,000 population and TB/HIV co-infection rate of 60% in 2014. In 2012, Botswana expanded ART eligibility to include all people living with HIV (PLHIV) with a CD4 count of < 350 cells/µl or WHO clinical Stage 3/4 disease. To inform the national decision to increase coverage by providing ART to all PLHIV (Treat All policy), we modeled the expected reductions in TB incidence and resulting TB-related cost savings from 2016-2035 comparing 1) a baseline scenario with current ART eligibility and HIV prevention coverage levels to 2) a Treat All scenario for PLHIV.

Methods: The HIV Spectrum Model was used to generate annual estimates of the number of PLHIV on ART and not on ART for each scenario from 2016-2035. TB and multidrug-resistant TB (MDR-TB) incidence and differential TB risk was modeled for each scenario; annual numbers of expected TB and MDR-TB cases among PLHIV were calculated. Base cost per TB and MDR-TB case were estimated from the cost of anti-TB treatment drugs and laboratory tests for diagnosis and clinical monitoring per national TB guidelines.

Results: Under the baseline scenario the annual number of TB cases among PLHIV would increase through 2035. Adopting a Treat All policy in Botswana would potentially prevent 71,862 TB/HIV cases, including 2,605 MDR-TB/HIV cases, resulting in cumulative TB cost savings of $40 million from 2016-2035. By 2035, we predict Treat All could reduce TB incidence from an estimated 1,321/100,000 among PLHIV (baseline) in Botswana to 568/100,000 (Treat All) and contribute a 36% reduction in overall TB incidence between 2015 and 2035.

Conclusions: While our projection is subject to several limitations, sensitivity analysis suggests that a marked reduction in TB incidence is robust. Immediate adoption of a Treat All policy in Botswana would be an important, effective TB prevention and control intervention. Additional TB control strategies will be needed to meet the end TB milestone of reducing TB incidence by 95% by 2035.

THAE031

ESTIMATING COUNTRY COST IMPLICATIONS ASSOCIATED WITH NEW WHO HIV TREATMENT GUIDELINE REVISIONS: FORECASTING CAMBODIA’S 5-YEAR PROGRAMME COSTS FOR ADULTS

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Background: HIV treatment coverage rates in Cambodia are high. Cambodia’s National Centre for HIV/AIDS, Dermatology, and STD (NCHADS) wanted to understand the cost and feasibility of expanding the national HIV treatment program to include eligibility for all HIV-positive patients regardless of CD4 count and expanding access to viral load (VL) monitoring. In order to optimize both available resources and treatment quality, the financial impact of adopting the 2015 World Health Organization HIV treatment guidelines must be considered. They also wanted to explore the impact of new technologies and antiretroviral drugs (ARVs) on HIV treatment program costs and drug transitions.

Methods: We used a five-year forecast Excel-based morbidity model, to run five comparison scenarios side-by-side evaluating different treatment policy decisions:
1) baseline of the current treatment eligibility at CD4< =350copies/mL and account for key populations;
2) increased treatment eligibility to treat-all and reduced CD4 monitoring;
3) increased treatment eligibility to treat-all;
4) treat-all and reduced CD4 monitoring;
5) treat-all, reduced CD4 monitoring, and initiating and gradually transitioning eligible efavirenz (EFV) patients to low-dose EFV.

All scenarios had an increase in VL coverage. Cambodian HIV epidemic and program data were used to estimate patient numbers and costs for first-line and second-line ARVs and buffer stocks, labs, and human resources. Patient years were disaggregated by patient types and assigning different treatment statuses such as pre-ART, PMTCT, newly initiating patients, stable patients, and non-stable patients.

Results: Estimated patient-years on treatment increased by 8% when adopting treat-all, with a large jump in the first year with additional pre-ART patients initiating treatment. This surge resulted in approximately $5million cost increase over five years. Savings were found in reducing CD4 monitoring ($2.6million) and further savings with transitions to low-dose EFV ($2.4million), netting lower five-year costs with these shifts compared to the baseline scenario. By year five, 45% of first-line patients are on low-dose EFV regimens, the cost per patient year decreases from $260 to $233 in scenario-five compared to scenario-three.

Conclusions: NCHADS used these results in consideration for their new guideline revisions. They decided that treat-all was feasible and would be adopted, and low-dose EFV would be incorporated into the program in lieu of EFV for eligible patients.
Spectrum/Goals files, assuming achievement in each country of the new 90-90-90 treatment targets.

Results: Over 9 million VMMCs had been conducted through 2014: 43% of the estimated 20.9 million VMMCs required to reach 80% coverage by end 2015. Assuming each country reaches the 90-90-90 HIV treatment targets, the modeling analysis projected that VMMCs conducted through 2014 will avert a total of 240,000 infections by 2025, compared to 1.1 million if each country had reached 80% coverage by 2015. The median estimated cost per HIV infection averted was $4,400. Nyanza province in Kenya, the 11 priority regions in Tanzania, and Uganda have reached or are approaching MC coverage targets among males ages 15-24, while coverage in other age groups is lower. Across all countries modeled, over 50% of the projected HIV infections averted were attributable to circumcision among the 10-19 year-olds.

Conclusions: The priority countries have made considerable progress in VMMC scale-up, and VMMC remains a cost-effective strategy for epidemic impact, even assuming near-universal HIV diagnosis, treatment coverage, and viral suppression. Examining circumcision coverage by 5-year age groups will provide countries with better insights into the progress of their VMMC programs and help them to make more informed decisions about next steps.

THAE0304 COST EFFECTIVENESS OF ON DEMAND PREP IN MEN WHO HAVE SEX WITH MEN (MSM) IN THE ANRS IPERGAY STUDY

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Background: ANRS IPERGAY showed the efficacy of on demand PrEP with TDF/FTC in preventing HIV acquisition among MSM.

Methods: A prospective economic evaluation was performed during the trial from the healthcare system perspective to determine the cost of PrEP per HIV-infection averted in the TDF/FTC arm. Both hospital and non-hospital resources were considered. Costs for counseling were added. Drugs (TDF/FTC and drugs for STIs), tests (for HIV and STIs), visits and hospital admissions were valued with the national tariff and based on their mean use during the trial (15 tablets of TDF/FTC per month). Robustness of results was tested by sensitivity analyses. The incremental cost-effectiveness ratio (ICER) of PrEP per HIV-infection averted was calculated for one year and compared to the yearly and lifetime cost of one HIV-infection in France ($201,170 and €535,000 respectively).

Results: The trial enrolled 400 participants and found that the number needed to treat for one year to prevent one HIV-infection was 17.6. The cost of counseling was €690 € per person-year. The total one-year costs of PrEP were €4,004 per participant, of which 78% were drug costs (€500 for 30 tablets of TDF/FTC). PrEP ICER was €70,470 per infection averted. Using TDF/FTC costs of €60 for 30 tablets, the one-year cost was €1,253 per participant and the ICER was €32,052 per infection averted, similar to the yearly cost of treating HIV-infection. Sensitivity analyses in figure 1 show the contribution of drug costs and NNT results on the ICER.

THAE0305 THE COST-EFFECTIVENESS OF HIV PRE-EXPOURE PROPHYLAXIS (PREP) IN HIGH-RISK MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDERED WOMEN (TGW) IN BRAZIL

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Background: The effectiveness of tenofovir-based oral PrEP for preventing HIV infection has ranged from 44-96% in clinical trials. We examined the cost-effectiveness of PrEP in MSM and TGW in Brazil.

Methods: We used the CEPAC-International model of HIV prevention and treatment to simulate clinical outcomes, costs, and cost-effectiveness of daily TDF-FTC PrEP among high-risk MSM and TGW in Brazil. Our comparator, no PrEP, featured guided-line-concordant care, including universal ART access. In the PrEP strategy, high-risk HIV-negative adults aged < 40y received daily PrEP, HIV testing every 4m, and annual creatinine. Base case parameters, derived from Brazil-specific sources, included mean age (31y), annual HIV incidence (ages 40y: 3.4/100PY; ages 40y: 1.0/100PY), PrEP efficacy (86%), PrEP drug costs ($12.50/m), and PrEP program costs ($0.99/m). We varied key parameters in sensitivity analyses.

Results: Compared to no PrEP, PrEP decreased lifetime HIV infection risk by 37%, PrEP increased per person discounted (undiscounted) survival from 20.7 (36.9) to 22.4 (41.1) years and decreased lifetime medical costs from $4,090 ($10,910) to $3,470 ($7,660); PrEP was therefore cost-saving (Figure 1). PrEP remained cost-saving under key parameter variation, including PrEP cost, initial cohort age, and HIV testing frequency on/off PrEP. When PrEP was only used until age 30, PrEP ceased to be cost-saving, but its incremental cost-effectiveness ratio (ICER) remained < 1xBrazilian per capita GDP. The ICER of PrEP also remained cost-saving or < 1xGDP when PrEP efficacy and HIV incidence varied widely (Figure 1), but exceeded 1xGDP when HIV incidence was ≤ 0.24 infections/100PY at base case PrEP efficacy (86%).

A STUDY OF POTENTIAL HIV TRANSMISSION HOTSPOTS AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN LIMA, PERU

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Background: Innovative prevention strategies for MSM and transgender women (TGW) that effectively reduce incidence are critically needed; building these strategies will require identifying transmission networks and associated drivers of ongoing HIV transmission. The objective of this study was to identify key drivers and geographic sources of transmission among MSM/TGW in Lima, Peru through two aims: 1) to recognize geographic transmission hotspots through mapping locations of venues at which participants reported having sexual encounters and their residences; 2) to identify clusters of related incident infections through phylogenetic analysis and link these clusters to real-time data on sexual encounters, high-risk behaviors, and attendance at social venues (bars, clubs, saunas, etc.).

Methods: Between September 2013 and October 2015, MSM and TGW (n=3,191) were screened for participation in a 24-month follow-up study (HIV prevalence=20.5%). HIV-uninfected individuals (n=2,078) agreed to monthly HIV testing and completing surveys covering drug and alcohol use, sexual activity, and attendance at social venues. Cohort HIV incidence was 8.6 per 1000 person-years (n=303). Locations of HIV-infected participants’ residence and social venues where participants reported a sexual encounter were mapped and analyzed using the Getis-Ord Gi* method to identify HIV hotspots. Putative transmission networks were identified by phylogenetic analysis of partial pol sequences obtained from incident HIV infections. Phylogenetic clusters were linked with individuals’ data on venue attendance and sexual partners.

Results: In the geographic analysis, 7 of the 20 social venues were identified as transmission hotspots (99% confidence); no neighborhoods were identified as hotspots. Phylogenetic analysis indicated 13 clusters of highly-related infections (bootstrap values >90%). Within clusters with sufficient behavioral data covering the time of infection (n=2), all or most members reported sexual encounters in the 60 days prior to HIV diagnosis with partners they met at specific venues that had been identified as transmission hotspots in the geographic analysis.

Conclusions: Both the phylogenetic and geographic cluster analyses identified related HIV incident cases associated with specific venues. These results support offering HIV prevention services, testing, and linkage-to-care efforts at high-risk social venues rather than in neighborhoods.

THAX0103 USING PHYLOGENETICS OF HIV TO INFORM PREVENTION AMONG YOUNG BLACK MEN WHO HAVE SEX WITH MEN IN CHICAGO

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Background: Phylogenetic analysis of HIV sequence data has potential to guide public health efforts and to clarify transmission network dynamics. Young black MSM (YBMSM) are now at greatest risk for HIV infection and a driver of continuing spread of HIV in Chicago. We identified characteristics associated with membership in phylogenetic clusters of HIV sequences and degree of connectivity among a cohort of YBMSM in Chicago.

Methods: uConnect is the largest cohort study of YBMSM (aged 16-29) in Chicago (n=618). Survey data were collected using respondent-driven sampling. We analyzed HIV-1 genetic sequences from dried blood spots. We determined pairwise genetic distance, inferred transmission events between persons whose pol sequences were ≤1.5% genetically distant, and constructed clusters of HIV that connected persons (≥1 tie to another sequence). We determined demographic and risk attributes associated with both membership in a phylogenetic cluster and degree of connectivity within each cluster.

Results: Our sample contained 214 (34.6%) HIV-diagnosed persons, from whom we analyzed 77 (36.0%) HIV pol sequences. Of 77 HIV sequences, 42 (54.3%) had a tie to genomes from ≥1 other person.

In adjusted zero-inflated Poisson regression analyses, we determined that self-identity as either straight (Relative Risk [RR] = 9.12; 95% CI: 3.47—23.96) or bisexual (RR = 5.94; 95% CI: 3.75—9.41), depressive symptoms (RR = 1.91; 95% CI: 1.36—2.68),
Results: We identified 27 phylogenetic clusters (average bootstrap = 99.2% and diversity = 1.7%). Of these, 10 were mixed gender clusters; 9 dyads and a cluster with 4 individuals (1 male and 3 females). In total, 12 females were linked to 10 males. All of the males were not on ART and had high viral load (Mean: 187,423 c/ml; Median: 106,165 c/ml). The mean age of males was 32.1 years and 27.7 years for the females.

Conclusions: We determined that self-reported sexual identity, depressive symptoms, and recreational drug use are associated with a high degree of connectivity within potential HIV transmission networks. Increasing access to mental health services and youth-focused drug use prevention programs may reduce HIV transmission among YBMSM.

Background: High-throughput sequencing (HTS) has recently been used to characterize HIV-1 genome sequences. While sequences of HIV-1 from each sample can be easily analyzed with small gene fragments, it has been challenging to analyze half or whole genome sequences due to short HTS reads. To reliably identify diverse quasispecies populations and determine subtype of HTS sequences generated from long HIV-1 genome sequences, we have developed a new pipeline that defines distinct virus populations in each sample and determines subtypes or recombination breakpoints of the sequences using the high-performance integrated Virtual Environment (HIVE).

Methods: Viral RNA was extracted from 70 plasma samples from two chronic infection cohorts; External Quality Assurance Program Oversight Laboratory (EQAPOL) and the Center for HIV/AIDS Vaccine Immunology (CHAVI). The 3’ half genome was amplified by RT-PCR and PCR amplicons were then sequenced by HTS on MiSeq. Raw reads were assembled and analyzed with the Geneious software and the HTS analysis tools in HIVE.

Results: Final consensus sequences of 3’-half genomes were first generated for all viruses using Geneious. Genetic analysis of these sequences identified 17 A1s, 4 B5, 30 Cs, 1 D, 6 CRF02_AG and 12 unique recombinant forms (URFs). Sequences from 41 viruses (58.6%) contained 1-1.78 ambiguous bases each, suggesting the presence of quasispecies viral populations in each sample and the single consensus generated by Geneious could not fully represent the viral population in these samples. We then analyzed the same raw reads using HIVe and found one species in 5 samples (7.1%), 2-10 species in 45 samples (64.3%), 11-20 species in 13 samples (18.6%), 21-30 species in 5 (7.1%), and 31-37 species in 2 samples (2.9%). Three samples contained two predominant populations which were not identified by Geneious. The subtyping and recombinant analysis results of the main species consensus sequences were the same as those determined by Geneious.

Conclusions: HIVe provides a useful platform with specialized tools to analyze HTS data generated for the half HIV-1 genome by identifying multiple distinct quasispecies populations and determining subtypes or recombination patterns of each species consensus sequences in the same samples.
ed HIV-DNA. Upon TCR triggering, HIV reactivation was preferentially observed in
localization in SIV infected rhesus macaques treated with an anti-α4β7 mAb
in SIV infected rhesus macaques with highly pathogenic SIV on live animals using a PET/CT imaging technique. Probes for both the gp120 envelope protein and the CD4 receptor were employed.

Methods: We determined that the anti α4β7 mAb reduces viral replication in gut associated lymphoid tissues, but also in other tissues including lung, spleen and axillary and inguinal lymph nodes that are not linked to α4β7 mediated homing. The reduction in viral replication in gut tissues occurred despite the fact that α4β7 mAb treatment did not deplete gut tissues of CD4+ cells. Treatment with anti α4β7 during the acute phase of infection appeared to facilitate CD4+ cell reconstitution at a later stage of infection.

Conclusions: These results demonstrate that an α4β7 antagonist can reduce viral replication in gut tissues without depleting those tissues of CD4+ cells. Because damage to the gut is believed to play a central role HIV pathogenesis, these results support further evaluation of α4β7 antagonists in the study and treatment of HIV disease.

HIV PERSISTS IN COLON AND BLOOD CCR6+CD4+ T CELLS DURING ART

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Background: Peripheral blood CD4+ T-cells expressing the Th17 marker CCR6 are highly permissive to HIV. Retinoic acid (RA), a gut-homing inducer, increases HIV integration/repllication only in CCR6+ T-cells; this further supports the role of the gut in HIV disease progression. Herein, we investigated the contribution of CCR6+ T-cells from the colon and blood to viral persistence during antiretroviral therapy (ART) and tested the ability of RA to reactivate latent HIV in these cells.

Methods: Experiments were performed on matched blood/colon biopsy samples (n=7) and PBMNC collected by leukapheresis (n=14) from chronically HIV-infected subjects apheresis under ART. Cells were extracted from colon biopsies by enzymatic digestion; then, memory CCR6+/CCR6- CD4+ T-cell subsets were sorted by flow cytometry (BD AriaIII). Blood total (T-), central (Tcm, CD45RA-CCR7+) and memory (Tcm, CD45RA-CCR7-) and central memory (Tcm, CD45RA-CCR7+) CD4+ T-cells expressing or not CCR6 and producing cytokines (IL-17A or IFN-g) were also sorted by flow cytometry. Integrated HIV genomes were quantified by real-time PCR. HIV reactivation was induced by stimulation with CD3/CD28 Abs in the presence or absence of RA (10 nM) and/or ART for 9 days. Levels of HIV RNA in cell-culture supernatants were quantified by real-time RT-PCR.

Results: Memory CCR6+ compared to CCR6- T-cells isolated from the blood and colon biopsies were highly enriched in integrated HIV-DNA (median blood: 2,298 ± 830, p=0.0041; median colon: 2,484 ± 1,463 HIV-DNA copies/10⁹ cells; p=0.01). Among the Tcm pool in the blood, CCR6+ Tcm showed the highest levels of integrated HIV-DNA. Upon TCR triggering, HIV reactivation was preferentially observed in blood CCR6+ compared to CCR6- Tcm, Tcm, and T- exposure to RA further induced HIV reactivation in CCR6+ T-cells, including cells producing IL-17A.

Conclusions: We identified CCR6 as a marker for CD4+ T-cells enriched in HIV reservoirs in the blood and the colon of ART-treated subjects and demonstrated that HIV-DNA persists in CD17-producing cells. The finding that RA promotes HIV latency reversal in a TCR-dependent manner indicates an important contribution of the intestinal environment to viral persistence and reactivation. Understanding molecular mechanisms of HIV persistence in Th17 cells will be critical for the design of therapeutic strategies aimed at viral eradication.
donor-4 and acceptor-7 within env, then a Rev mutant fused to dsRed is expressed instead. This system therefore allows the detection of unspliced and spliced RNA products through the measurement of eGFP or dsRed via flow cytometry. HEK293T cells were transfected with the reporter construct with or without a Tat expression plasmid and treated with a panel of LRAs. Fluorescence was assessed and Paired T-tests were performed.

Results: In cells transfected with the splicing reporter, treatment with romidepsin, panobinostat, JQ1 and PMA/ionomycin significantly increased the expression of unspliced product compared to DMSO in the absence of Tat (4.3, 1.6, 2.9, 6.8 fold change (FC) respectively, all p<0.05) and in the presence of Tat (1.5, 1.7, 1.5, 1.2, 1.7 FC respectively, all p<0.05). Interestingly, without Tat only JQ1 and PMA/ionomycin significantly increased the expression and proportion of spliced product (dsRed/ (dsRed+eGFP)) (4.9, 4.6 FC respectively, both p<0.05). Conversely, although HDACi had no effect on the level of spliced product without Tat, when Tat was added, a significant reduction in the proportion of spliced product was observed following treatment with vorinostat, romidepsin and panobinostat compared to DMSO (0.54, 0.62, 0.76 FC respectively, all p<0.05).

Conclusions: HDACi reduce the efficiency of HIV RNA splicing in the absence or presence of Tat. This was not seen with other LRAs including JQ1 and mitogen. In addition to the effect of LRAs on HIV transcription, we propose that an assessment of RNA splicing should also be evaluated.

THPDA0105
REAL TIME IMAGING OF HIV UNCOATING IN LIVING CELLS
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Background: Following the viral fusion of HIV with the cell membrane, the HIV genome is delivered into the cytoplasm within a fullerenic cone-like structure known as the capsid. The capsid is composed of the viral proteins p24CA, and at some point, is separated from the reverse transcribing HIV genome in a process known as uncoating. The timing of the uncoating event remains controversial with some models proposing that the conical capsid structure is lost early while other models suggest that the intact capsid structure docks at the nuclear pore. The lack data for kinetics and localization of uncoating has led to intense discussions over recent years.

Methods: To develop a cell biology approach to visualize dynamic changes in capsid integrity and composition, we utilized GFP as a fluid phase marker intravirion marker. With this technique, the loss of the fluid phase GFP occurs in two steps, with fusion and upon the loss of the capsid core integrity. Live-cell microscopy of dual labeled virions allows for the moment of fusion and capsid integrity loss to be timed, thereby revealing the kinetics, localization and composition of HIV-1 early steps of infection.

Results: Direct observation of individual virions reveals that the time between fusion and uncoating for both HIV envelope and VSVg mediated fusion in tissue culture and primary cells (macrophages and T cells), is approximately 30 minutes. Uncoating occurs entirely in the cytoplasm. Inhibition of reverse transcription or RNaseH activity delays uncoating. Quantification of p24CA reveals that the majority of p24CA is lost when the capsid integrity is disrupted revealing uncoating happens at a specific virion behavior is associated with productive infection opens up many opportunities to define and characterize the earliest steps of the HIV lifecycle and how the virus interacts with innate host defenses.

THPDAB0101
HIV EXPOSURE: HOW DOES IT AFFECT CHILDREN?
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Background: The effect of perinatal HIV- and antiretroviral exposure on neurodevelopment in HIV-exposed uninfected (HEU) children remains unclear. We prospectively compared neurodevelopmental outcomes in HEU vs. HIV-unexposed (HUI) children at 24 months of age.

Methods: We enrolled HIV-infected and HIV-uninfected mothers during pregnancy or 1 week post-partum and their babies in the prospective observational Tshipidi study in 2 sites in Botswana (1 urban and 1 rural) from May 2010-July 2012. Liveborn infants and their mothers were followed for 24 months postpartum, with socio-demographics and health data collected at entry and at 6 month intervals. Neurodevelopmental outcomes were assessed at 24 months of age with an adapted version of Bayley Scales of Infant and Toddler Development-Third Edition (Bayley-III), a comprehensive child assessment, and the Developmental Milestones Checklist (DMC), a parent report of general development designed for the African context.

Results: Among the 910 (453 HEU, 457 HUI) infants, 670 (313 HEU, 357 HUI) had at least 1 valid domain on the Bayley Scales of Infant and Toddler Development—Third Edition (Bayley-III) assessment. Differences between HEU and HUI in DMC scores across the four domains were evaluated (Table 1).

Comparison of neurodevelopmental outcomes between HIV-exposed
uninfected infants vs. HIV-unexposed infants

<table>
<thead>
<tr>
<th>Domain/Score</th>
<th>HEU (N=313) Mean (SD)</th>
<th>HUI (N=357) Mean (SD)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>53.75 (3.37)</td>
<td>53.07 (3.25)</td>
<td>0.60 0.02</td>
</tr>
<tr>
<td>Gross Motor</td>
<td>52.66 (2.77)</td>
<td>52.91 (2.67)</td>
<td>-0.25 0.25</td>
</tr>
<tr>
<td>Fine Motor</td>
<td>37.25 (1.80)</td>
<td>37.35 (1.80)</td>
<td>-0.10 0.46</td>
</tr>
<tr>
<td>Expressive Language</td>
<td>25.02 (4.36)</td>
<td>25.85 (3.98)</td>
<td>-0.83 0.01</td>
</tr>
<tr>
<td>Receptive Language</td>
<td>21.07 (3.54)</td>
<td>20.76 (3.21)</td>
<td>0.31 0.24</td>
</tr>
</tbody>
</table>

Table 1: Crude and Adjusted Differences in Mean Bayley-III Scores

Conclusions: HIV exposed uninfected children performed equally well to HIV unexposed children on 2 assessments of neurodevelopment at 24 months of age, easing the concern that HIV exposure and/or related neonatal ART exposure negatively impact neurodevelopment.
Background: HIV exposed uninfected (HEU) in Africa are developmentally at-risk both from the effects of HIV disease on the mother and fetus during gestation, and from pre- and postnatal (breast feeding) exposure to anti-retroviral treatments (ARTs). This NIH/NICHD-sponsored study compares neurodevelopmental outcomes of co-enrolled PROMISE Malawian and Ugandan children, to age and gender-matched HIV uninfected unexposed (HUU) community controls.

Methods: 125 Malawian (Blantyre) and 125 Ugandan (Kampala) HEU infants completed neurodevelopmental assessment at both age 12 and 24 months of age, along with 139 Malawian and 125 Ugandan age- and gender-matched HUU children. Children were tested with the Mullen Scales of Early Learning (MSEL). Data from 60% of total enrolled sample are presented here since 24-month MSEL testing is still going on. Overall loss to follow-up so far is 8%, mostly in the Malawian control cohort due to displacement from severe flooding in Blantyre January 2015. Least-squared means for standardized scores were compared by exposure group (HUU, HEU) and by country site (Uganda, Malawi) for 12 and 24 months using the linear mixed models with interaction effects of time, site and HIV exposure status.

Results: In a repeated-measure (12 & 24 months) mixed models, HUU children had higher composite MSEL cognitive ability scores than the HEU cohort for the Malawian children at 12 months and for the Ugandan children at 24 months. This composite difference of -1.2 SD (normative) was clinically meaningful in terms of developmental delay. Significant MSEL differences favoring HUU were obtained for Visual Reception, Fine Motor, and Expressive Language scales. Gross Motor and Receptive Language between-cohort differences were not significant. MSEL scores were significantly higher for the Malawian children differences for all scales (p<0.002) except for Fine Motor.

Conclusions: HEU breastfed children on NVP prophylaxis or with maternal ART exposure are at greater overall neurodevelopmental risk than a matched control cohort of HUU children, even though they receive monthly medical and nutritional monitoring and support through their enrollment in the IMPAACT PROMISE study. However, these preliminary findings suggest that most developmental domains are more at risk for the HEU children.
Background: Cardiac abnormalities are a cause of chronic morbidity in HIV infected children. Left ventricular (LV) hypertrophy and systolic and diastolic dysfunction are well described in HIV-infected children. In contrast, the right side of the heart is rarely studied. HIV infected individuals are at an increased risk of pulmonary hypertension (PH) and this may affect right ventricular (RV) function. This study aimed to determine the prevalence and risk factors of echocardiographically determined right heart abnormalities in HIV-infected children on ART.

Methods: HIV-infected children aged 6-16 years on ART were enrolled from the Paediatric HIV clinic at Harare Central Hospital. Assessment included clinical history, New York Heart Association (NYHA) class, incremental shuttle walk testing, spirometry, viral load, CD4 count and transthoracic 2D, M-mode, pulsed wave and continuous wave Doppler echocardiography.

Results: 201 children, median age 13 (IQR 9-12) and 48% females were enrolled. The median CD4 count was 726.5 (IQR 473-935) and 68% had a viral load of <50 copies/ml. Chest pain on exertion was reported in 11% and chronic cough in 15%. Two children (1%), were hypoxic at rest and 11% post-exercise; 18% were symptomatic in NYHA score 2 and 3. Abnormal spirometry was found in 24%. The prevalence of right heart abnormalities was 30% (N=59). Right ventricular dilatation (RVD) was most common in 28% (N=56) and of these, 63% (N=37) had concomitant left heart abnormalities. There was biventricular dilatation in 3 patients and 45% (N=25) had RV dilatation with LV systolic and/or diastolic dysfunction. PHT was found in 2% (N=3) and they had normal right ventricle size. Right heart abnormalities were not associated with any of the reported symptoms including chest pains, chronic cough or abnormal lung function.

Conclusions: Our findings show a high prevalence of abnormalities of the right heart in HIV-infected older children and adolescents. Strikingly was the substantial proportion of patients with RV dilatation not associated with PHT. This could be secondary to left heart abnormalities or primary RV abnormality due to lack of association with lung function abnormality. Furthermore, inappropriate normative data may have over diagnosed RV dilatation.

THPDB0106

TREATMENT CASCADE OF HIV-INFECTED INFANTS IN THE THAILAND NATIONAL PROGRAMME: HOW CLOSE ARE WE TO THE 90-90-90 TARGET?

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Background: UNAIDS has set 90-90-90 targets for diagnosis, treatment and viral suppression in HIV-infected children by 2020. The Thailand Global AIDS Response Program estimated 4,869 HIV-infected pregnant women and 102 new perinatal HIV-infected children in 2014. We describe the coverage of early infant diagnosis and treatment cascades of perinatally HIV-infected infants in the National Program.

Methods: The national AIDS program provides HIV DNA PCR testing for all HIV-exposed infants and antiretroviral therapy (ART) is provided, free of charge, regardless of CD4 count. Viral load testing is performed at 6 and 12 months after ART initiation. We analyzed national data collected on HIV-infected infants by the Active Case Management Network and the HIV DNA PCR database of 15 laboratories. The coverage of infant diagnosis will be calculated against estimated data from 2014.

Results: From August 2014-December 2015, 21,415 HIV DNA PCR tests were performed. Of these, 101 HIV-infected infants were identified, accounting for 70% of the estimated number of newly infected infants per year. ART was initiated in 83 infants (82%); 74 (89%) received the lopinavir/ritonavir-based regimen. The median age at ART initiation was 2.5 months (IQR 1.2-4.2). In 55% of infants, ART was initiated the same day that blood was drawn for confirmatory HIV DNA PCR. The median (IQR) CD4 cell count was 120 (50-200) cell/mm³ and the HIV RNA per ART was 5.53±6.4 log10 copies/ml. The overall mortality rate was 14% (9 infants died prior to and 5 infants died after ART initiation) and median age at death was 4.4 months (IQR 2.4-6.2), with pneumonia being the commonest cause of death. Of these 15 deaths, 11 (73%) did not receive neonatal antiretroviral prophylaxis. The proportion of infants on ART with HIV RNA <400 copies/ml were (23/47) 49% (95% CI: 34-64) at 6 months and (11/18) 61% (95% CI: 36-83) at 12 months.

Conclusions: 70% of HIV-infected diagnosed infants, 82% began treatment, and 61% achieved virological suppression. A high mortality rate was noted, particularly among HIV-infected infants not included in the cascade care. Additional work is needed to prevent HIV-associated infant mortality and improve virological suppression among infants on ART.
areas. The CrAg lateral flow assay (LFA) is ideally formatted for point-of-care (POC) use. Therefore, the accuracy of the CrAg LFA on finger-prick blood and urine samples performed in clinic settings by front-line health workers was determined.

Methods: Patients with asymptomatic cryptococcal antigenemia detected by reflex laboratory-based CrAg screening, were identified from HIV clinics in Johannesburg, along with CrAg-negative controls. A CrAg LFA was performed on finger-prick blood and urine samples by a nurse and repeated in a laboratory. Results of POC and laboratory-performed LFA tests were compared to the reference laboratory-based CrAg LFA test performed on plasma during the previous month. Testing was repeated on positive urine samples following centrifugation at 2000rpm for ten minutes.

Results: Fifty-three patients with known CrAg status (19 CrAg positive; 34 CrAg negative) were tested using POC and laboratory-based CrAg LFA. POC CrAg LFA on blood had a sensitivity of 89.5% (95% CI 66.7-98.7%) and specificity of 100% (89.7-100%). Both CrAg positive patients who were tested as POC-LFA negative had very low viral titres. Sensitivity improved to 100% using laboratory-based testing. POC CrAg LFA on urine had a sensitivity of 84.2% (60.4-96.62%) and a specificity of 44.1% (27.2-62.1%), with no improvement using laboratory-based testing, or after centrifugation.

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<th>n, (Sensitivity, 95% CI)</th>
<th>n, (Specificity, 95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC fingerprint blood</td>
<td>17/19 (89.47%, 66.86% - 98.7%)</td>
<td>34/34 (100%, 89.72% - 100%)</td>
</tr>
<tr>
<td>Lab pipetted blood</td>
<td>19/19 (100%, 83.25% - 100%)</td>
<td>34/34 (100%, 89.72% - 100%)</td>
</tr>
<tr>
<td>Lab centrifuged urine</td>
<td>N/A</td>
<td>10/18 (55.6%, 30.7%-78.5%)</td>
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</table>

Conclusions: CrAg LFA on finger-prick blood is an appropriate POC method for screening HIV-infected adults commencing ART. This could reduce turn-around time and loss to follow up, particularly where laboratory access is limited. Urine samples should not be used due to a high rate of false positive results.

**Table 1. Sensitivity and specificity of the CrAg LFA used on blood/urine at the POC and in a laboratory, compared to laboratory LFA on plasma**

**TPHDB0203**

**STABILITY OF HIV SEROLOGICAL MARKERS COLLECTED BY HEMASPUT OR DRIED BLOOD SPOTS**

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Background: Dried blood spot (DBS) technology is increasingly being used to acquire clinical specimens for biosurveillance, clinical trials, epidemiology, diagnosis and monitoring of vulnerable populations in remote areas. Problems with analyte recovery after prolonged storage at high temperature and humidity in addition to cumbersome processing procedures have hindered widespread acceptance of these methods. In this study, we compared the performance of the HemaSpot™ (Spot On Sciences) Blood Collection Device to DBS for collection and testing of HIV positive specimens.

Methods: The HemaSpot™ Blood Collection Device and standard Whatham 903 DBS were evaluated on clinical specimens including HIV seroconversion panels known to be positive for HIV markers. Serum or plasma samples were reconstituted with an equal volume of whole blood from HIV negative donors; 100ul was applied to the DBS or HemaSpot and placed into unsealed or sealed zip-lock bags containing desiccant. Specimens were stored at room temperature or in high humidity (95%) at 37°C or 45°C for 30 days. Blood was eluted in 200ul PBS-0.2% Tween, and tested with HIV-1/2/D, HIV Combo Ag/Ab EIA (EIA), HIV-1 Western Blot (WB), and MultiSpot HIV-1/HIV-2 Rapid Tests (MS), (Bio-Rad, Hercules, CA).

Results: All HIV infected samples tested positive in the HIV-1/2/D, MultiSpot, and WB assays following up to 1 month storage at room temperature. A marked loss in reactivity was observed in samples stored at 37° or 45°C under high humidity conditions (Fig 1). Samples placed in a sealed bag with desiccant were protected from degradation. The HIV-1/2 Combo assay could not be used for screening with either device due to excessive background signal.

**Table 2. Sensitivity and specificity of the CrAg LFA used on blood/urine at the POC and in a laboratory, compared to laboratory LFA on plasma**

<table>
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<th>n, (Sensitivity, 95% CI)</th>
<th>n, (Specificity, 95% CI)</th>
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<td>N/A</td>
<td>10/18 (55.6%, 30.7%-78.5%)</td>
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Conclusions: Dried blood spot samples are suitable for collection, transport, and HIV testing by HIV 1/2/D, MultiSpot, and WB, provided they are protected from humidity. The HemaSpot device was easier to use than standard DBS methods.

**TPHDB0204**

**EVALUATION OF ABBOTT REALTIME HIV-1 DBS ASSAY**

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Background: HIV RNA suppression is a key indicator for monitoring of antiretroviral therapy. Viral load (VL) testing using Dried Blood Spots (DBS) is a promising alternative to plasma based VL testing in resource-limited settings. The analytical and clinical performance of the Abbott RealTime HIV-1 assay using DBS from venous blood and finger prick blood was evaluated.

Methods: Limit of detection (LOD) was determined using dilution of HIV-1 Viral Quality Assurance stock in venous blood. 316 HIV-1 positive adult clinical samples collected from Ivory Coast, Uganda and South Africa were tested. For each participant sample, plasma, DBS-venous and DBS-finger were collected. Samples collected...
from Ivory Coast and Uganda were tested at Abbott Molecular and samples collected in South Africa were tested at Lanctot Laboratories. For each HIV-1 participant, DBS-venous, DBS-finger and plasma sample results were compared. Correlation and mean bias values were obtained. The sensitivity and specificity were analyzed based on DBS misclassification at a threshold of 1000 HIV RNA copies/ml in plasma.

**Results:** The LOD of the Abbott HIV VL assay on DBS was found to be 839 copies/ml. Participant samples included 195 (62.3%) ≥ LOD, 95 (30.3%) “Not detected” and 23 (7.35%) “< LOD detected” based on plasma results. Within the linear range of 839 copies/ml to 1x10^7 copies/ml, the correlation coefficient for DBS-finger versus plasma (n=150) was 0.887, for DBS-venous versus plasma (n=150) it was 0.902, for DBS-finger versus DBS-venous (n=146) it was 0.947. The mean bias was -0.13 log copies for DBS-finger versus plasma, -0.10 log copies for DBS-venous versus plasma and -0.05 for DBS-finger versus DBS-venous. Using a misclassification threshold of 1,000 copies/ml: For DBS-finger, 13/152 samples had an HIV VL ≥1000 with plasma and <1000 with DBS-finger giving a sensitivity of 91.4%; For DBS-venous, 9/152 samples had an HIV VL≥1000 with plasma and <1000 with DBS-venous giving a sensitivity of 94.1%. The specificity was 96% (155/161) for both DBS-finger and DBS-venous (6/161 samples misclassified with a VL<1000 for plasma and 1000 for DBS).

**Conclusions:** The HIV VL quantitated between DBS-finger, DBS-venous and plasma correlates well. The mean bias between the sample types were all < 0.2 log copies/ml.

**THPDB0205**

**GENEXPERT HIV-1 QUANT: A TOOL FOR MONITORING THE SUCCESS OF ART PROGRAMME IN DEVELOPING COUNTRIES**

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**Background:** Recent guidelines re-identify virologic monitoring as the gold standard practice for diagnosing and confirming ART failure. In support to the national ART programme to scale up HIV-1 viral load testing with the point-of-care (POC) technologies, GeneXpert HIV-1 Quant assay was validated at NARI, Pune, India. **Methods:** 314 HIV positive individuals (pre ART n=151, on ART n=129, suspected ART failures n=34) were screened by the Abbott m2000rt Real Time HIV-1 viral load assay. 219 plasma specimens falling in different viral load ranges (< 40 to > 5L cp/ml) were selected and tested by the GeneXpert HIV-1 Quant assay. Additionally, 20 seronegative, 16 stored specimens (1, 2, 3 months storage) and 10 spiked copy controls (40 to 40L cp/ml) were tested. Statistical analysis was carried out for determining the coefficient of variation (Intra and inter assay), linear regression, Bland-Altman plots, sensitivity, specificity, NPV, PPV. The percent misclassifications were calculated for international and national cut-offs used for classifying the treatment failures (DHHS/ATSls-200 cp/ml; WHO-400 cp/ml and NACO-1000 cp/ml).

**Results:** Correlation between two assays (r = 0.938) was statistically significant (p < 0.01) and linear regression showed a good fit (R²= 0.878). The GeneXpert HIV-1 Quant assay compared well with the gold standard with a higher sensitivity (91.95%), specificity (99-100%) and reproducibility on the spiked copy controls. The LOD and ULD of the GeneXpert HIV-1 Quant were 1.94 log_{10} and 6.98 log_{10} cp/ml. The misclassification rates for the three viral load cut offs were not statistically different when compared by proportion test (p = 0.830). Bland-Altman analysis showed almost all differences were within limits of agreement. All seronegative samples were negative and viral loads of the stored samples showed a good fit in the linear regression (R²= 0.896 to 0.982).

**Conclusions:** With the ease of performance and rapidity, the POC GeneXpert platform that is used for detection of M. tuberculosis DNA can be used for HIV-1 quantification for better management of ART therapy. This will facilitate an integrated management of patients with HIV and TB and can be an important tool for scaling up the UNAIDS 90-90-90 initiative in resource limited settings.

**THPDB0206**

**LYNX P24 ANTIGEN POINT-OF-CARE TEST CAN IMPROVE INFANT HIV DIAGNOSIS IN RURAL ZAMBIA**

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**Background:** An affordable and effective point-of-care test would increase access to testing for HIV-exposed infants and linkage to care for HIV-infected infants. The LYNX p24 antigen point-of-care test, developed by CIGHT at Northwestern University and Northwestern Global Health Foundation, was shown to be valid in laboratory and clinical studies and has the potential to reduce the time to diagnosis and treatment in rural sub-Saharan Africa.

**Methods:** From July 2014-June 2015, LYNX testing machines were evaluated at The Macha Hospital HIV clinic in rural Southern Province, Zambia. HIV-exposed infants requiring early infant diagnosis were enrolled. At the study visit, a dried blood spot card was collected for HIV DNA testing in Lusaka and a blood sample was collected for the LYNX test. The LYNX test was performed immediately by clinic counselors under observation by study staff. All steps in performing the LYNX test were assessed; HIV DNA test results were recorded.

**Results:** 156 infants (median age: 5.0 months; 48% male; 88% received PMTCT) were tested. 97% of tests were performed according to protocol. Among these, test results were available in a median of 55 minutes (IQR: 45, 58). Electricity was not available at the health care facility for 11% of tests (testing machines were operated using battery power). Eight infants tested positive and 137 tested negative by HIV DNA PCR (6 results yet to be returned). Of the 8 positive infants, 6 were also positive by the LYNX test (sensitivity: 76%; 95% CI: 5, 97). Of the 137 HIV DNA negative infants, 1 LYNX test was invalid and 136 were negative (specificity: 100%; 95% CI: 97, 100). The median time from sample collection to returning the HIV DNA PCR results to the mother was 90 days (IQR: 84, 141). Three mothers defaulted and 1 infant died while waiting for test results.

**Conclusions:** The LYNX test was successfully performed by counselors in rural health facilities and identified the majority of HIV-infected infants, without misdiagnosing any children. The LYNX test would significantly decrease the turnaround time for diagnosis in this setting, enabling HIV-infected infants to initiate antiretroviral therapy at an earlier age.

**THPDCO101**

**DIFFICULT DECISIONS: INDIVIDUAL AND COUPLE FERTILITY DESIRES AND HIV ACQUISITION AMONG HIV SERODISCORDANT COUPLES IN ZAMBIA**

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**Background:** Previous research on the determinants of fertility desires in HIV-infected women, and serodiscordant couples has yielded mixed results. Despite the risk of HIV acquisition, transmission and mortality associated with conception, safer conception interventions for serodiscordant couples are not readily available in sub-Saharan Africa. This study evaluated determinants of fertility desires and effect of fertility desire on HIV acquisition among HIV serodiscordant couples in an open cohort in Lusaka, Zambia.

**Methods:** We collected demographic, behavioral, clinical exposures, and data on fertility desires in a prospective cohort of HIV serodiscordant couples from 1995 to 2012. Factors associated with fertility desires by gender were evaluated using multivariable logistic regression. To estimate the overall effect of fertility desire on risk of HIV infection, we developed inverse-probability-of-treatment-weighted estimation variable logistic regression. To estimate the overall effect of fertility desire on risk of HIV acquisition, inverse-probability-of-treatment-weighted estimation variable logistic regression. To estimate the overall effect of fertility desire on risk of HIV acquisition, inverse-probability-of-treatment-weighted estimation variable logistic regression.
THPDC0102  
**PREP AND ART REDUCE HIV TRANSMISSION BETWEEN MEMBERS OF HIV SERODISCORDANT COUPLES DURING PREGNANCY AND PREGNANCY ATTEMPTS**

R. Heffron1, N. Mugoo2, K. Nguere3, E. Bukusi4, J. Odoyo5, E. Katabira6, N. Bulya7, S. Asiimwe8, E. Tindimwebwa4, J. Haberer5, M. Marzinke6, C. Celum1, J.M. Baeten1

**Background:** HIV-negative members of HIV serodiscordant couples are extremely vulnerable to HIV acquisition during pregnancy attempts because it is necessary to forgone condom use. Antiretroviral treatment (ART) and pre-exposure prophylaxis (PrEP) are powerful HIV prevention strategies and can be leveraged to reduce HIV transmission risk during pregnancy attempts.

**Methods:** Among 1013 Kenyan and Uganda high risk HIV serodiscordant couples, we implemented an integrated ART and PrEP strategy for HIV prevention and followed couples for 2 years. Following quarterly HIV testing, PrEP was provided to HIV-negative partners until HIV-positive partners used ART for 26 months. Contraception was available at all study sites. Pregnancy testing was conducted when clinically indicated and self-reported data on fertility desires and sexual behavior were collected through standardized interviewer administered questionnaires on a quarterly basis.

**Results:** In 67% of couples, the woman was the HIV-positive partner. At enrollment, 37% of HIV-positive and 39% of HIV-negative women reported intentions to have a child within 3 years and 77% of HIV-positive and 66% of HIV-negative women were not using effective contraception, proportions that remained fairly constant throughout follow up. Among HIV-positive and negative women, there were 154 incident pregnancies (incidence rate = 18.6/100 person years) and 87 incident pregnancies (incidence=20.3/100 person years), respectively. There were no HIV transmissions to male partners during incident pregnancies or in the 6 months preceding those pregnancies. One woman seroconverted and became pregnant during the same 3-month interval; behavioral reports and biological testing confirm that she was not using PrEP prior to seroconversion. During the three months prior to pregnancy diagnosis, 62% of couples were using PrEP or ART, 30% were using both. For 34% of women who were using PrEP when they became pregnant, 88% elected to continue using PrEP during pregnancy.

**Conclusions:** Fertility intentions were common and most couples chose to use PrEP and/or ART, which nearly eliminated HIV transmission during pregnancy and pre-conception periods in this large cohort with high pregnancy rates. ART and PrEP are important elements to promote within safer conception programs for HIV serodiscordant couples.

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THPDC0103  
**UNDIAGNOSED HIV-INFECTED PARTNERS ARE THE MAJOR GAP IN THE CASCADE FOR SERODISCORDANT COUPLES IN TWO HIGH PREVALENCE SETTINGS**

D. Mamara1, H. Huerega1, G. Van Cutsem2, I. Mukula3, B. Chilima2, W. Hennekijn4, E. Maleku5, L. Salumut1, T. Elman6, J. F. Etard7, 8

**Background:** Discordant couples are a major source of HIV transmission. We quantified the prevalence of HIV discordant couples and, among HIV-infected individuals, evaluated each step of the cascade of care in two high prevalence settings in Sub-Saharan Africa.

**Methods:** Two population-based surveys of persons ages 15 to 59 were conducted in Nkhawa (Nyaza, Kenya) and Chirolulu (Malawi) between September 2012 and May 2013, to assess HIV incidence and cascade of care. Each individual who agreed to participate was interviewed and tested for HIV at home. All HIV-positive were tested for VL and CD4, regardless of their ART status. A couple consisted of two persons who were legally married or who were living together in a consensual union.

**Results:** In total 7,425 houses were visited and among 15,104 individuals eligible, 13,365 (88.4%) were included and tested for HIV. Among 2,970 identified as couples, HIV discordancy was found in 35.8% (95%CI 13.9-17.9) in Kenya and 10.0% (95% CI 7.9-12.7) in Malawi. Among couples with at least one HIV-infected partner, the proportion of HIV-discordancy was 45.8% in Kenya, 40.9% in Malawi. Men were the HIV-positive partner in 63.6% (95%CI 56.7-70.0) of the discordant couples in Kenya, higher than in Malawi (47.9%; 95% CI 40.4-55.5). HIV status awareness among HIV-positive partner of discordant couples was 42.2% in Kenya and 64.4% in Malawi. VL suppression was 34.6% in Kenya and 54.5% in Malawi, lower than in the general population (40.0% in Kenya, 61.9% in Malawi). VL suppression was higher in women compared to men, in Kenya (39.5% vs 26.8%, p<0.1) and in Malawi (61.2% vs 46.5, p< 0.01).

**Conclusions:** Discordant couples were frequent and VL suppression ranged between 35 and 55% among HIV-positive partners. The high rate of unawareness of status among HIV-positive partners must be addressed in order to promote timely initiation of ART and/or PrEP to reduce transmission within this high-risk group.

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THPDC0104  
**CLINICAL OUTCOMES AND LESSONS LEARNED FROM A SAFER CONCEPTION CLINIC FOR HIV-AFFECTED COUPLES TRYING TO CONCEIVE**

S. Schwartz1, R. Pfohl2, N. Yende3, J. Basset3, J. Sarne6, A. Van Rie1, 3

**Background:** Many couples affected by HIV express the desire to conceive despite the risk of horizontal and vertical HIV transmission. Sakh’umndeni is one of the first safer conception services integrated within a primary care clinic in Sub-Saharan Africa.

**Methods:** Since July 2013, Witkoppen Health and Welfare Centre in Johannesburg, South Africa, offers safer conception services to individuals in relationships who wish to conceive in the next three months if one or both partners are living with HIV. The safer conception clinic, Sakh’umndeni, offers patients a range of services and choices for HIV prevention including antiretroviral therapy (ART) initiation for HIV-positive partners independent of CD4 count, pre-exposure prophylaxis (PrEP) for HIV-negative partners, STI screening and treatment, viral load monitoring, counseling around peak fertility identification, self-insemination, and referral to on-site male medical circumcision. Participants are followed prospectively from enrollment until HIV testing at age 6 weeks of the infant.

**Results:** Overall, 406 individuals participated in Sakh’umndeni, including 144 couples and 118 unaccompanied women. About half (46%) of all couples were serodiscordant (n=66/144). The majority (341/406, 84%) of participants were HIV-positive. Most men (90%) and women (60%) already had one or more children. Median age was 34 years [IQR30-38] among women and 37 years [IQR34-43] among men. At enrollment, almost half (45%) of participants had engaged in condomless sex with their partner in the past 30 days. At first visit, 81% of HIV-positive women and 70% of HIV-positive men were already on ART. During follow-up, 51/52 HIV-ART-naive individuals initiated ART. Only 14 of 66 (21%) HIV-negative participants chose PrEP.
THPDC0105
UPTAKE AND CLINICAL OUTCOMES FROM A PRIMARY HEALTHCARE BASED SAFER CONCEPTION SERVICE IN JOHANNESBURG, SOUTH AFRICA: FINDINGS AT 7 MONTHS

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Background: Safer-conception services (SCS) for HIV-seroconcordant, serodiscordant or sero-unknown couples support HIV counselling and testing (HCT), ART initiation, viral load (VL) suppression and HIV prevention. The South African Contraception and Fertility Planning Policy includes SCS provision yet primary healthcare (PHC) based SCS remain rare. This study aimed to develop, implement and evaluate a PHC-based SCS, in Johannesburg, South Africa. Here, we report early uptake and clinical outcomes.

Methods: Individuals and couples in HIV-seroconcordant, serodiscordant and sero-unknown relationships desiring pregnancy enrolled at the new SCS from existing PHC services. Safer-conception strategies offered included: HCT, ART initiation, VL monitoring, STI screening/management, and periovulatory condomless sex or self-insemination.

Results: Of 218 participants enrolled, 141 (65%) were female (average 33.5 years; range 19-45) and 77 male (average 37.4 years, range 24-57). Overall, 134/141 (95%) women and 62/77 (81%) men were HIV-positive, including five newly diagnosed. No seroconversions have occurred amongst 22 HIV-negative clients. Among SCS-users, 74 enrolled as couples (51 seroconcordant; 23 serodiscordant) and 70 as unaccompanied individuals (27 reporting seroconcordant relationships, 16 serodiscordant and 27 with unknown partner status). Among unaccompanied females, 7/18 disclosed to their partners post-enrolment, resulting in two more male ART initiations. Out of eleven on ART for ≥3 months, 9 had VL < 200 copies.

Conclusions: Implementing a PHC-based safer-conception service is acceptable and feasible, impacting HCT, ART initiations, viral suppression and PMTCT targets including earlier ANC access. High demand for the service creates opportunities for HIV prevention and improved HIV treatment outcomes. However, challenges include partner non-disclosure, difficulties engaging men and pregnancies occurring before SC strategies are optimised.

THPDC0106
HIGH PLANNED PARTNER PREGNANCY INCIDENCE AMONG HIV-POSITIVE MEN IN RURAL UGANDA: IMPLICATIONS FOR COMPREHENSIVE SAFER CONCEPTION SERVICES FOR MEN

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Background: In 2015, UNAIDS called for greater inclusion of men within sexual and reproductive health programming. An estimated 30-50% of HIV-positive men intend to have children, and approximately half have HIV-uninfected partners. Men often play a dominant role in reproductive decision-making, including uptake of strategies that support achievement of pregnancy while minimizing sexual HIV transmission. To inform implementation of male-inclusive safer conception services, we measured partner pregnancy incidence among HIV-positive men engaged in HIV care.

Methods: Participants were enrolled in the Uganda AIDS Rural Treatment Outcomes cohort of HIV-positive individuals initiating antiretroviral therapy (ART) in Mbarara, Uganda. Bloodwork (CD4 cells/mm3, HIV-RNA) and questionnaires (including health status, behaviors, partner dynamics, and self-reported partner pregnancy) were collected at baseline and quarterly. Our analysis includes 189 HIV-positive men enrolled between 2011-2015. We measured partner pregnancy incidence overall and by reported partner HIV-serostatus and pregnancy intention.

Results: At baseline, median age was 40 years [Q1,Q3: 35,47] and median number of living children was 4 [Q1,Q3: 2,5]. 74% were married with 66% reporting HIV-positive partners. 19% reported ≥2 sexual partners. Median years on ART was 3.9 [Q1,Q3: 0.5,1]. Median CD4 was 318 cells/mm3 [Q1,Q3: 235,424], and 51% were virally suppressed (< 400 copies/mL). Over 480 women-years of follow-up, 63 men reported 85 partner pregnancies (incidence rate 17.7/100 person-years). By three years of follow-up, 33% reported at least one partner pregnancy (Figure 1). Of 85 pregnancies, 45% of partners were HIV-negative/unknown-serostatus and only 7% were unintended.

Conclusions: One-third of HIV-positive men on ART reported at least one partner pregnancy within 3 years of follow-up. Nearly half of all pregnancy partners were at risk for HIV acquisition and over 90% were intended pregnancies. Findings highlight the need for reproductive health services that include men and support uptake of strategies to minimize sexual HIV transmission risk in the context of intended pregnancy.

[Figure 1: Probability of reported partner pregnancy over time among HIV-positive men on ART in Mbarara, Uganda]
THPDD0101 ETHICAL AND SOCIAL IMPLICATIONS OF PROPOSED HIV CURE RESEARCH: STAKEHOLDER PERSPECTIVES FROM SOUTH AFRICA

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Background: The ethical concerns associated with HIV prevention and treatment research have been widely explored in South Africa. However, HIV cure research is relatively new to the region and significant ethical and social challenges are anticipated as various scientific strategies including early treatment of acute infection, neutralizing antibodies, gene therapy and therapeutic vaccines are explored. Consequently, early stakeholder engagement is critical. While two studies in China and Australia have researched stakeholder perspectives, there has been no similar published empirical enquiry in Africa regarding HIV cure research. This study was conducted to gain preliminary data from South African HIV clinicians, patients, caregivers, medical students, researchers and activists.

Methods: In-depth interviews were conducted on a purposive sample of thirty-five stakeholders in South Africa from October 2015 to February 2016. In addition five focus group discussions (FGDs) were conducted with adolescent patients, caregivers, adult patients, Community Advisory Board members and medical students. Audiotaped interviews and FGDs were transcribed verbatim with concurrent thematic analysis. Analyst triangulation occurred as the data were analysed by three researchers independently and then integrated via discussion.

Results: Common themes emerged from the interviews. The rapid evolution of HIV cure research agendas was prominent with participants expressing some concern that the global North was driving the cure agenda. Assessing and managing knowledge and expectations around HIV cure research emerged as a central theme related to challenges in future cure trials. Distinguishing between biomedical and emotional cure, remission and healing was highlighted as important. Avoiding curative misconception would be critical. Treatment interruption was regarded as a major risk if "cure" failed.

Conclusions: A holistic approach integrating biomedical treatment, prevention and cure research is critical to achieve HIV eradication. The synergistic effect of such scientific research will be enhanced if the social and ethical dimensions of cure are taken into account. The findings of this study have important implications for community engagement, consent processes and possibly compensation for failed interventions in future cure trials. Undoubtedly, knowledge and resource sharing in the context of collaboration between research scientists working in cure and those working in treatment and prevention will accelerate progress towards cure.

THPDD0102 COMMUNITY ENGAGEMENT IN HIV CURE-RELATED RESEARCH: APPLYING GOOD PARTICIPATORY PRACTICE (GPP) PRINCIPLES TO COMMUNITY EDUCATION EFFORTS

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Background: Meaningful community engagement demands basic scientific knowledge and principles of engagement. We investigated the attitudes and beliefs of people living with HIV toward HIV cure research. The Good Participatory Practice guidelines for HIV Biomedical Prevention (GPP) is a set of recommendations that outlines practices to engage a broad set of stakeholders in the research process.

Methods: We completed a cross-sectional survey with 400 American adults living with HIV (22% females; 77% males; < 1% transgender) connected to HIV cure research networks in 2015 to assess basic knowledge and attitudes around HIV cure research. The sample was ethnically diverse with broad geographical representation. We also conducted extensive key informant interviews with 36 people living with HIV, researchers, bioethicists and regulators to discuss the role of community in HIV cure research.

Results: Of the survey respondents, 96% [95% CI: 91, 100%]; n = 399 were generally interested in HIV cure research and 95% [90, 100%]; n = 399 were concerned with medical issues. Nonetheless, a proportion of respondents - 8% [3, 13%]; n = 350 thought a cure for HIV was already in existence. Study participants agreed that more information around HIV cure research was needed at a basic level of understanding given the complexity of the science, particularly about the various risks of HIV cure research modalities under investigation. Furthermore, the results revealed a disconnect between this stakeholder group and the research process, highlighting the need for a comprehensive and robust stakeholder engagement plan around HIV cure research in the United States.

Conclusions: Given that a subset of HIV-positive survey respondents thought a cure for HIV existed but wasn’t currently available to everyone, a comprehensive education and stakeholder engagement plan is needed. Engaging people living with HIV early in the research process using Good Participatory Principles can help lessen potential participants’ misconceptions and fears and lead to greater acceptance and support for HIV cure research. Additional formative research is needed with different stakeholder groups, including physicians, religious leaders and community educators.
TREATMENT INTERRUPTIONS IN HIV CURE STUDIES IN THE UNITED STATES: PERCEPTIONS, MOTIVATIONS AND ETHICAL CONSIDERATIONS FROM POTENTIAL HIV-POSITIVE VOLUNTEERS

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Background: We investigated perceptions of and willingness to undergo analytical treatment interruptions (ATIs) as part of HIV cure studies in the United States.

Methods: We completed a cross-sectional survey with 400 American adults living with HIV (22% females; 77% males; < 1% transgenders) in 2015. The sample was ethnically diverse and 38 U.S. states were represented. We also conducted extensive key informant interviews with 36 people living with HIV, researchers, bioethicists and regulators to assess motivations, perceptions of and concerns around ATIs.

Results: In the sample of potential HIV-positive volunteers, 98% (95% CI: 93, 100); n = 400 were currently taking antiretrovirals. Almost half 44% (39, 49%; n = 399) reported that they had ever participated in an HIV study and 7% [2, 12%]; n = 400 said they had ever been part of a HIV cure-related study. Of the survey respondents, 26% [21, 31%] were very willing to interrupt treatment, 42% [37, 47%] were somewhat willing. 12% [7, 17%] were not willing at all and 11% [6, 16%]; n = 359 were unsure. Close to two thirds (65% [60, 70%]; n = 350) reported that no more HIV treatment ever would be the definition of cure to them. Motivations for undergoing ATIs included: desire to help find a cure, past experiences with treatment interruptions and compensation. A subset of potential volunteers considered ATIs to be “too much risk” and expressed concerns about the possibility of viral rebound and development of resistance to ARVs. Clinicians, researchers and regulators were divided on the topic of ATIs. Some believed ATIs should not be attempted unless proof of concept is established for experimental modalities. Others agreed that there are criteria for proceeding with ATIs, including strong scientific justification, close monitoring and demonstrated substantial reduction in reservoir size and/or significant augmentation of the immune clearance function.

Conclusions: As a functional cure may be defined as ART-free remission, ATIs could become a clinically meaningful measure for cure. To ensure ethical utilization, it will be important to continue understanding stakeholders’ perspectives while minimizing risks.

INTERRUPTING HIV TREATMENT IN CURE RESEARCH: SCIENTIFIC AND ETHICAL CONSIDERATIONS

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Background: Intense activity is being directed at strategies for remission or eradication of HIV infection. However, current laboratory assays for HIV reservoir measurement are insufficient to demonstrate clearance of HIV and the best available test is to interrupt antiretroviral therapy (ART)—known as analytic treatment interruption (ATI)—for a defined period of time or until viral rebound occurs. Although ATIs are currently used in some HIV cure research, they raise important scientific and ethical questions.

Methods: A multidisciplinary group conducted an ethical analysis of the use of ATI in HIV cure research. The analysis examined the rationale for ATI and its potential scientific utility as well as the risks and burdens to study participants. Criteria for use of ATI in HIV cure studies were developed.

Results: Despite the ethical obligation to minimize research risks, there are limited data to directly inform risk assessment for ATIs in HIV cure trials. Experts have extrapolated from information from trials using longer repeated treatment interruptions and from biological assays measuring effects of viral replication and inflammation. Despite these best efforts, it is difficult to ascertain the probability and magnitude of harm from a single ATI. There is also disagreement about the scientific utility of ATI in different types of studies. In spite of these uncertainties, studies involving ATIs must meet three basic ethical criteria: 1) a strong scientific justification for the ATI; 2) minimization of risks to study participants; and 3) a robust informed consent process.

Conclusions: Based on the ethical criteria identified in this analysis, investigators should carefully consider the acceptability of ATIs by providing a strong justification of an ATI and carefully select participants. Further work should be undertaken by clinical researchers in partnership with social scientists, behavioral researchers and ethicists to enhance the ethical conduct of studies employing ATIs.
THPDE0101
PROJECT START INTERVENTION INCREASES HIV TESTING UPTAKE AND DECREASES HIV RISK BEHAVIOUR AMONG MEN RELEASED FROM PRISON: A RANDOMIZED STUDY IN UKRAINE

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Background: In Ukraine, the prevalence of infectious diseases and substance use disorders is high among incarcerated population. This study assessed whether the effective case-management intervention Project START decreases risk of HIV in men who transfer from prison to community in four regions of Ukraine.

Methods: Male prisoners were randomized either to standard services or to an intervention group that included two sessions before release and up to four sessions within three months after release focused on decreasing risk of HIV, STIs and hepatitis transmission. Participants were assessed at baseline before the intervention, and at 3- and 6-month follow-ups. Primary outcome variables were: being at risk of contracting HIV due to their behavior in the past 3 months, and having had an HIV test in the past 12 months. The effects for group, time and group by time interac-
tions were analyzed using mixed effects logistic regression with random intercepts.

Results: In total, 394 male prisoners (mean age 35.2 ± 9.4 years, mean duration of imprisonment 41.0 ± 24.7 months, 56.9% reported history of injection drug use) were included in the study. Follow-up rates at 3- and 6-month assessments were 86% and 85% for the intervention group and 82% and 82% for the control group, correspondingly. Compared to controls, participants in the intervention group were significantly less likely to report HIV-related risk behavior, including irregular condom use or/and sharing injection needles in the past three months (AOR 0.51, 95% CI: 0.39 to 0.67, identical for the 3- and 6-month post-release assessments). Intervention was associated with higher odds of testing for HIV at 3-month (AOR 4.56, 95% CI: 1.61 to 12.94) and 6-month (AOR 1.70, 95% CI: 1.08 to 2.88) follow-ups.

Conclusions: In this first implementation study of the Project START in Ukraine, the intervention was shown effective in increasing HIV testing uptake and decreasing HIV risk behavior in men released from prison, and can be implemented in other countries of the Eastern Europe and Central Asia.

THPDE0102
EXPANDING HIV AND STI CARE TO PRISONERS: THE EXPERIENCE FROM ZOMBA CENTRAL PRISON, MALAWI

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Background: Globally, prevalence rates of HIV, sexually transmitted infections (STIs) and hepatitis B (HBV) in prison populations are 2 to 50 times higher than in general populations. Risks affect prisoners, prison staff, their families and the entire community. In 2013, the Malawi Prison Services established a steering committee to scale-up HIV care and treatment in Malawian Prisons. We used routinely collected program data to evaluate the HIV cascade and prevalence of syphilis and HBV in Zomba Central Prison, a high-security facility in the south of Malawi.

Description: Since 2014 Dignitas International and the Malawi Prison Health Services have been implementing a comprehensive package of care and treatment for HIV-TB and STIs. Prisoners are routinely screened for HIV, TB and STI at entry and when they are released. In addition, HIV, TB, syphilis and HBV screening campaigns are conducted every six months.

Lessons learned: During a June 2015 screening campaign 1052/1745 (60%) prisoners with unknown HIV status accepted to be tested for HIV, HBV and syphilis. 68/1052 (6.46%) tested positive for syphilis, 20/1052 (1.9%) and 58/1052 (5.5%) tested positive for HBV. 1.1% were co-infected with HIV/HBV. By October 2015, 482/539 (99%) HIV positive patients were on ART, 52% were initiated due WHO 3/4, 48% due to low CD4 (<350 or < 500 cells/µL, depending on calendar episode). 98% were on the standardized 1st line ART regimen. All ART patients who were eligible for routine viral load (VL) monitoring according to National Guidelines received VL testing. 277/319 (86%) were virologically suppressed (<1000 copies/ml). All patients with VL<1,000 accessed enhanced adherance counseling.

Conclusions/Next steps: Malawian Prisoners attained acceptable HIV testing coverage, high ART uptake, and good adherence demonstrated by high virological suppression. Incarceration provides an opportunity to address HIV care in hard-to-reach individuals. Prison health care programs needs to carefully plan for the special needs of prisoners such as confidentiality and continuity of care within and outside prisons.

THPDE0103
INSTITUTIONALIZING HEALTH EDUCATION IN PRISONS: THE ADOPTION OF PEER EDUCATION AS THE NATIONAL APPROACH FOR HIV PREVENTION AMONG INMATES IN MOZAMBIQUE

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Background: Incarcerated populations in Mozambique are particularly vulnerable to HIV infection. A recent study found the HIV prevalence among male prisoners to be 24%, nearly three times higher than the general adult male population (9.2%). Transmission and acquisition of HIV is affected by many factors, with a large proportion of incarcerated men reporting consensual sex, commercial sex and coerced sex involving both inmates and staff. Overcrowding, poor sanitation, lack of medical assistance, malnutrition, and violence also increase prisoners’ vulnerability to HIV exposure, making them a priority group for HIV prevention and care interventions. Despite this, health facilities are often scarce within the prison system.

Description: To respond to the health needs of the prison population, Pathfinder International, in partnership with Ministry of Justice (MOJ) and supported by CDC/PEPFAR, developed a multi-faceted HIV prevention program implemented in 10 prisons across Mozambique that incorporated behavioral, biomedical, and structural interventions. In order to generate demand and stimulate behavior change, a 48-hour training curriculum on sexual and reproductive health and rights was used to train 100 peer educators. These peer educators conducted one-on-one sessions with other inmates, and also led groups of 5 - 8 people in a series of five sessions that provided information regarding HIV, STIs, and TB. Additionally 26 senior prison staff were trained to facilitate linkages between prison and health facilities to improve access to health services.

Lessons learned: Between April and December 2015, 3,988 inmates took part in the peer education program, resulting in 2,265 referrals to health services and 991 people receiving HTC (HIV testing and counselling). 87 people (8.8%) were found to be HIV positive and 58 (66.7%) were enrolled into care and treatment. The use of a peer-led model allowed for the integration of health services into the existing prison model. This promotes both scalability and sustainability. In addition, although the project focused on HIV prevention and treatment, the training curriculum also provided information on STIs, TB, nutrition, hygiene and sanitation, allowing for adaptation of this model to address a range health needs.

Conclusions/Next steps: Peer support mechanisms are an effective method of generating demand and reinforcing healthy behavior among incarcerated populations.

THPDE0104
FEMALE PRISONERS IN ZAMBIA: RESOURCING AND RELATIONAL RISK FACTORS FOR HEALTH AND HEALTHCARE ACCESS

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Background: In sub-Saharan Africa, empirical research focussing on the experiences and issues of women prisoners is almost non-existent. Forming part of a larger programme to strengthen Zambian prison health systems this study examined factors driving health and access to healthcare among Zambia’s female inmates.

Methods: A total of 44 interviews were conducted with a cluster random sample of 23 women and 12 male prisoners. 10% (50% HIV-positive) prisoners and 23 officers and healthcare workers. Four Zambian prisons were purposively selected based on geographic spread (one facility in each of four provinces), and a range of security levels (two medium-, one maximum- and one low-security District facility). Interviews were translated and transcribed and analysed using an inductive approach that drew on the principles of health systems analysis.
THPDE0105

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Background: Across Southern Africa HIV infection rates in the regions overcrowded prisons are double that of the general population. Health service provision is poor and rates of disease such as TB, STIs and hepatitis are unacceptably high. Female prisoners, adolescent and juvenile males are at particular risk of sexual coercion and violence.

Governments are reluctant to invest money in prisoner health or rehabilitation despite the fact that up to 33% of prisoners are on remand and most prisoners are eventually released back into society.

Description: The project works across 7 countries (Malawi, Zimbabwe, Swaziland, Zambia, Mozambique, Lesotho and Tanzania) following a holistic programming approach including:

- Base line research to establish conditions in relation to prisoner health across the region
- Building capacity of civil society organisations by placing VSO volunteers with organisational development and social work skills to improve health services delivered in prison settings
- Regional advocacy by the VSO supported Southern African Network on Prisons and working with and training Southern African parliamentarians to lobby for implementation of regional minimum prison health standards
- Engaging with ex-offenders and raising their voice at national level Prison Working Groups.

Lessons learned: Evaluation conducted to date has highlighted the following:

- Working with prisoner populations requires time and commitment. A long process of sensitization was undertaken with ministries of justice, parliamentarians, donors and ex-offenders to build support.
- The importance of an evidence base. VSO conducted research and small scale pilot projects over a number of years prior to this project.
- The joint approach of capacity building of civil society organizations and prison settings whilst undertaking high level advocacy is most effective
- Working regionally, across 7 countries, maximizes opportunities to share learning
- Long term funding support from SDC provides essential project stability.

Conclusions/Next steps:

- Use learning from the first 3 focus countries (Malawi, Swaziland and Zimbabwe) to expand project activity across the remaining four.
- Increase focus on youth and juvenile prisoners as the most vulnerable sub-group scaling up the provision of psycho-social support.
- Promote prison health at global level in line with SDG commitments to leave no one behind.

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THPDE0201

MODELLING THE COST-PER-HIV INFECTION AVERTED BY COUPLES’ VOLUNTARY HIV COUSSELLING AND TESTING IN SIX AFRICAN COUNTRIES

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Methods: We recently demonstrated the cost effectiveness of CVCT in Zambia using the actual financial expenditures and observed HIV prevention impact of implementing CVCT in Lusaka, Copperbelt, and Southern Provinces among 172,981 couples. Here, we estimate the cost-per-HIV infection averted (CHIA) by CVCT in six sub-Saharan African countries with very different HIV epidemics. We used the prevention impact of CVCT observed in Zambia (63-84% reduction in HIV incidence) as well as conservative estimates of effect (50% reduction). Based on experience implementing CVCT in two countries, models assume a 4-phase CVCT implementation: in the initiation phase, we assume 10% of couples are tested at $75/couple; in the expansion phase an additional 10% of couples tested at $50/couple; in the mature phase an additional 60% of couples tested at $25/couple; and in the maintenance phase 20% of residual and new couples tested at $10/couple.

Results: CVCT CHIA ranged from extremes of $35 (in Lesotho, assuming 10-years of impact and observed estimates of CVCT effectiveness) to $3,076 (in Sierra Leone, assuming 5-years of impact and conservative estimates of CVCT effectiveness) (Figure 1). Our model is most sensitive to HIV prevalence and couple serodiscordance. CHIAs were lowest in areas with high prevalence of HIV and HIV discordance (as in Southern Africa) and highest in areas with lower prevalence of HIV and discordance (as in Western Africa).

Conclusions: Estimates of CHIA CHIA were cost-effective under a range of real-world implementation scenarios. These findings provide further support for inclusion of CVCT as a required indicator and for funding priority setting.

THPDE0202

HIV PREVENTION COSTS AND ITS DETERMINANTS: EVIDENCE FROM THE ORPHEA PROJECT IN KENYA

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Methods: We collected retrospective data from key informants, administrative registers and time-motion observations for 2011-12 from 78 multi-stage sampled health facilities in 33 districts across Kenya. We stratified analyses by health facility type, ownership, size, and intervention type. We computed total costs of production using both quantities and unit prices for each input. We estimated average costs by
dividing total cost per intervention by number of clients accessing the intervention. We used forward-selection stepwise regression methods to identify and analyze significant determinants of log-transformed average costs (p < 0.05).

Results: For HTC, the cost per client tested was $7.4 and cost per client tested and positive was $146. For PMTCT, cost per client tested was $57.4, and cost per client tested and positive was $677. Table: We found evidence of economies of scale for the two interventions: doubling the number of clients per year was associated with average cost reductions of 25% for HTC, and 48% for PMTCT (Figure). Task shifting was associated with reduced costs for PMTCT (59-63%), but not for HTC. On the other hand, costs in facilities that target testing (for persons most at risk or for those with symptoms) tend to have higher costs for HTC (63-75%) but not for PMTCT.

Conclusions: Aside from increasing production scale, HIV prevention costs may be further contained by using task shifting for PMTCT; targeted testing for HTC may require more resources.

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<td>5,464.7</td>
<td>1,689.9</td>
</tr>
</tbody>
</table>

[Average cost (US$) per client across HIV prevention service cascade in Kenyan health facilities, 2011-12]


Conclusions: This evidence indicates a 23% increase in overall costs to adopt a treat-all pediatric strategy featuring LPV/r pellets. This should encourage countries to develop a budgetary roadmap to expand HIV treatment to all infected children. The model and process can be applied in new contexts for informed HIV treatment scale-up policy and implementation decisions.

THPDE0203
ANSWERING THE FINANCIAL QUESTION WITH COUNTRY PROGRAMS: WHAT IS THE COST AND IMPACT OF ADOPTING THE 2015 WHO PEDIATRIC HIV TREATMENT GUIDELINES?

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Background: The 2015 revisions to the WHO pediatric HIV treatment guidelines align with the 2015-2020 scale-up strategy by recommending countries treat all HIV+ patients < 15 years. In moving from the 2013 guidelines, which recommended treating all < 5 years and treating those >5 years if CD4 < 500, Governments want to understand the costs in adopting both this treat-all strategy and latest optimized IATT products, such as heat-stable LPV/r oral pellets to replace cold-chain LPV/r syrup to improve treatment outcomes for new initiates < 3 years.

Methods: We conducted a macro-level, government-perspective, 5-year (2016-2020) cost analysis of a hypothetical country (defined as 150,000 HIV+ children < 15 years). We included the following variable costs: antiretroviral (ARV) drugs, CD4 tests, viral load tests, early infant diagnosis tests, and health worker salaries, with fixed and programmatic costs excluded. Three scenarios - comparing WHO 2013 vs. 2015 eligibility guidelines, and also a LPV/r pellet and ABC/3TC 120/60mg regimen choice for ART initiates - were then analyzed and compared in an Excel-based mathematical model.

Results: A per-patient-per-year costing using WHO 2013 vs. 2015 guidelines yielded estimated ARV costs of US$119 vs. US$122 in 2016, increasing to US$152 vs. US$156 in 2020 to reach the “90% coverage by 2020” UNAIDS target. Total ARV+Lab+HR program costs for 2013 vs. 2015 guidelines were estimated at US$11.5M vs. US$13.6M in 2016, with an annual average of US$22M vs. US$26M through 2020. Notably, adopting LPV/r oral pellets only added US$4M to total 5-year costs for 2015 guideline adoption.

Background: Voluntary medical male circumcision (VMMC) is recommended by WHO as a key component of HIV prevention. VMMC programs have substantially contributed to avert new infections, but while coverage scales up, critical challenges arise such as technology adoption and availability of resources hindering the achievement of their goals. The objective of this study was to estimate average costs and to analyze the determinants of efficiency of VMMC in Kenya, Rwanda, South Africa and Zambia for 2013, as part of the ORPHEA project.

Methods: ORPHEA is a cross-sectional observational study with data collected in Kenya, Rwanda, South Africa, and Zambia between 2011 and 2013. The analytical sample comprised of 82 facilities: 25 facilities in Kenya, 20 facilities in Rwanda, 23 facilities in South Africa, and 14 facilities in Zambia. Micro-costing methods were applied to determine relevant costs (personnel, supplies, utilities, equipment and property) and output data. Information on self-reported time allocation was used to estimate staff costs and national prices of surgical kits and HIV tests were used in the calculations.

Results: Average cost per VMMC was US$ 29 in Rwanda, US$ 51 in Zambia, US$ 32 in Kenya, and US$ 106 in South Africa. Considerable variation in the average cost within countries was found; staff costs dominated in South Africa and Zambia.
SPENDING MORE TO SPEND LESS: THE UNIT COSTS OF A TAILED DEMAND CREATION INTERVENTION TO INCREASE UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION

S. Torres-Rueda1, H.A. Weiss1, M. Wambura2, H. Mahler3, J. Chilongani2, E. Kuringe2, D. Gotham1, M. Barber1, J. Fortunak3, A. Pozniak4, A. Hill4

Background: HIV prevalence is higher for men aged 20-34 years than for younger males (aged 15-19-years) in Tanzania. Voluntary medical male circumcision (VMMC) is a proven HIV prevention intervention, but uptake in Tanzania is highest among younger males. A cluster randomised controlled trial was conducted to assess the effectiveness of a locally-adapted demand creation intervention in increasing uptake of VMMC among men aged 20-34 years in Tabora and Njombe regions of Tanzania. The intervention evaluated included: demand-creation messages; use of peer promoters; separate waiting areas for older clients; and information sessions for female partners. This study presents the total, incremental and unit costs of this VMMC intervention.

Methods: Cost data were collected from a provider’s perspective on surgical, demand-creation and supervisory activities in all clusters across both trial arms. Costs per circumcision were calculated taking into account staff, supplies, start-up and capital costs. Univariate sensitivity analyses were conducted to understand drivers of unit costs.

Results: The total mean costs per cluster were higher in the intervention arms ($48,820 and $46,222, in Tabora and Njombe, respectively) than the control arms ($36,088 and $37,344). Cluster-level client load varied widely across clusters and capital costs. Univariate sensitivity analyses were conducted to understand drivers of unit costs.

Conclusions: The higher unit cost of VMMC in Njombe compared to Tabora may be due to greater VMMC saturation: the number of clients in Tabora was 2.5 times higher than in Njombe. Despite added costs of delivering the intervention, mean unit costs per circumcision were lower. Developing a tailored demand creation package for older VMMC clients is likely an effective approach to increase uptake and ultimately reduce unit costs.

RAPIDLY FALLING COSTS FOR NEW HEPATITIS C DIRECT-ACTING ANTIVIRALS (DAAS): POTENTIAL FOR UNIVERSAL ACCESS

D. Gotham1, M. Barber1, J. Fortunak2, A. Pozniak3, A. Hill4

Background: Novel direct-acting antivirals (DAAs) achieve high sustained viral response rates of >90% in chronic hepatitis C (HCV). But access to DAAs is low: ‘access’ prices are available in countries covering only 50% of the worldwide epidemic.

Production costs depend largely on prices of active pharmaceutical ingredient (API).

Methods: Data on the per-kilogram prices of exported API, and export volumes, were extracted from an online database (www.infodriveindia.com) for Jan-Dec 2015. Mean end-2015 API costs were calculated using linear regression models weighted by shipment size (figures). For velpatasvir, API cost was calculated by analysing chemical synthesis, costs of raw materials, processes, and yields. Per-pill API costs were calculated based on daily dosage. Estimated costs for formulation and excipients ($0.04/pill), packaging ($0.35/month), and a profit margin (50%) were added.

Results: Total exports from India in 2015 were, sofosbuvir: 8.4 tons, (equivalent to 250,000 12-week treatment courses), daclatasvir: $23 kg (104,000 courses), ledipasvir: 56 kg ($7300 courses). API prices decreased throughout 2015 (Figure). End-2015 API prices per pill were estimated using linear models. US price was 884 times higher than the target price for sofosbuvir, 3706 times for daclatasvir and 409 times higher for sofosbuvir+ledipasvir.

Conclusions: HCV DAAs production costs are falling rapidly. We estimate that 12-week treatments of sofosbuvir can be manufactured for $95, sofosbuvir+ledipasvir $231, daclatasvir $17, velpatasvir $119-154, all including a 50% profit margin. These low production prices show the potential for Universal Access programmes for HCV similar to those already established for HIV/AIDS.

<table>
<thead>
<tr>
<th>Drug</th>
<th>End-2015 API price/kg</th>
<th>Target price per 12-week treatment</th>
<th>Current global lowest price per 12-week treatment</th>
<th>Current US price per 12-week treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofosbuvir (SOF)</td>
<td>$1,758</td>
<td>$95</td>
<td>$483</td>
<td>$84,000</td>
</tr>
<tr>
<td>Daclatasvir</td>
<td>$1,432</td>
<td>$17</td>
<td>$183</td>
<td>$63,000</td>
</tr>
<tr>
<td>Ledipasvir (LDV)</td>
<td>$11,432</td>
<td>$136</td>
<td>unknown</td>
<td>unknown</td>
</tr>
<tr>
<td>Sof+LDV</td>
<td>N/A</td>
<td>$231</td>
<td>$515</td>
<td>$94,500</td>
</tr>
<tr>
<td>Velpatasvir</td>
<td>$8,900-11,700</td>
<td>$119-154</td>
<td>unknown</td>
<td>unknown</td>
</tr>
</tbody>
</table>

[Decreasing prices of exported sofosbuvir/daclatasvir through 2015. 1 bubble = 1 shipment, bubble area scaled to size of shipment in kg]

[Calculated target prices and current prices for 12-week DAA treatment courses]
The protective immune correlates of HIV infection are yet to be fully elucidated to inform anti-HIV vaccine design. The existence and importance of anti-HIV Natural Killer cell (NK) memory response have been identified in mice and re-elucidated to inform anti-HIV vaccine design. The existence and importance of anti-HIV-1 specific NK recall functional response is associated with host susceptibility/resistance to HIV-1 infection in South African women. The aim of this study was to determine the possession of select KIR and HLA ligands alone or in combination, associated with host susceptibility/resistance to HIV-1 infection in South African women.

Methods: Immunogenetic studies have suggested a role for KIR:HLA ligand interactions in protection and control of HIV-1 infection. The aim of this study was to determine the possession of select KIR and HLA ligands alone or in combination, associated with host susceptibility/resistance to HIV-1 infection in South African women. The impact of KIR:HLA ligand genotypes in acquisition or resistance to HIV-1 clade C infection in Sub-Saharan Africa.
Conventional dendritic cells (cDCs) from HIV-1 Elite Controllers (ECs) may contribute to the generation of highly efficient T-cell-mediated antiviral immune responses through induction of potent type I IFN responses with improved antigen-presenting properties upon exposure to HIV-1. Mechanisms to support the expansion of EC-like DC phenotype in a broader patient population may provide novel opportunities for improving immune-based approaches for HIV treatment and prevention.

Methods: Expression changes of a panel of costimulatory molecules and maturation markers on DCs from ECs versus HIV-1-infected patients can provide useful information regarding the functional status of DCs in HIV-1-infected patients. Therefore, we measured the expression of several costimulatory molecules and maturation markers on the surface of monocytes and DCs from ECs and HIV-1-infected patients using flow cytometry. We also assessed the proliferative capacity of autologous CD4 T cells in response to stimulation with DCs from ECs and HIV-1-infected patients.

Results: The proliferative capacity of CD4 T cells was significantly higher in response to stimulation with DCs from ECs compared to HIV-1-infected patients. Furthermore, the expression of costimulatory molecules and maturation markers on DCs from ECs was significantly higher than that from HIV-1-infected patients.

Conclusions: Conventional dendritic cells (cDCs) from ECs may contribute to the generation of highly efficient T-cell-mediated antiviral immune responses through induction of potent type I IFN responses with improved antigen-presenting properties upon exposure to HIV-1. Mechanisms to support the expansion of EC-like DC phenotype in a broader patient population may provide novel opportunities for improving immune-based approaches for HIV treatment and prevention.

Other Intra-Molecular Responses
TPHEAO6 MODULATION OF NEUTROPHIL GENE EXPRESSION AND PROTEOMIC PROFILE DURING ACUTE HIV INFECTION
S. Nhamyobonde1, S. Kazer2, S. Liu3, A. Wellmann1, L. Bell1, H. Kloeverpin1, M. Yadon1, Z. Magogo1, J. Mobley1, A. Shalek2, A. Leslie3
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Background: Neutrophils are an important component of the innate immune response and are one of the first cells recruited to the site of infection or inflammation. They elicit an immune response through phagocytosis, secretion of antimicrobial molecules, cytokines and neutrophil extracellular traps. Alterations in neutrophil function that occur during HIV infection might be associated with increased susceptibility to opportunistic infections such as tuberculosis. Neutrophils are the first cells recruited to the lungs after M. tuberculosis infection and are the most abundant and heavily infected cells at the site of disease. The primary aim of this study is to investigate modulation of the neutrophil gene expression and proteomic profile during the course of acute HIV infection, in order to establish whether this contributes to the increased susceptibility of HIV infected individuals to opportunistic infections.

Other Innate immune responses
TPHEAO4 TLR3 AGONISTS SUPPORT THE GENERATION OF A HIGHLY-FUNCTIONAL DC SUBSET THAT IS PREFERENTIALLY OBSERVED IN CDC FROM HIV ELITE CONTROLLERS AFTER HIV-1 EXPOSURE

Background: Conventional dendritic cells (cDCs) from HIV-1 Elite Controllers (ECs) may contribute to the generation of highly efficient T-cell-mediated antiviral immune responses through induction of potent type I IFN responses with improved antigen-presenting properties upon exposure to HIV-1. Mechanisms to support the expansion of EC-like DC phenotype in a broader patient population may provide novel opportunities for improving immune-based approaches for HIV treatment and prevention.

Methods: Expression changes of a panel of costimulatory molecules and maturation markers on DCs from ECs versus HIV-1-infected patients can provide useful information regarding the functional status of DCs in HIV-1-infected patients. Therefore, we measured the expression of several costimulatory molecules and maturation markers on the surface of monocytes and DCs from ECs and HIV-1-infected patients using flow cytometry. We also assessed the proliferative capacity of autologous CD4 T cells in response to stimulation with DCs from ECs and HIV-1-infected patients.

Results: The proliferative capacity of CD4 T cells was significantly higher in response to stimulation with DCs from ECs compared to HIV-1-infected patients. Furthermore, the expression of costimulatory molecules and maturation markers on DCs from ECs was significantly higher than that from HIV-1-infected patients.

Conclusions: Conventional dendritic cells (cDCs) from ECs may contribute to the generation of highly efficient T-cell-mediated antiviral immune responses through induction of potent type I IFN responses with improved antigen-presenting properties upon exposure to HIV-1. Mechanisms to support the expansion of EC-like DC phenotype in a broader patient population may provide novel opportunities for improving immune-based approaches for HIV treatment and prevention.

MONOCYTES AND MACROPHAGES
TPHEAO5 PREVALENCE AND IMMUNO-METABOLIC ASSOCIATIONS OF FRAILTY IN OLDER AUSTRALIAN MEN LIVING WITH HIV: A CROSS-SECTIONAL ANALYSIS
H. Lee1, A. Cheng1, J. Hoy1, C. Palmer1, S. Crowe1,2
1Monash University, Melbourne, Australia, 2The Alfred Hospital, Melbourne, Australia

Background: Frailty, a manifestation of physical and psycho-social vulnerability, is a condition of increasing concern as the HIV population ages. The definition of frailty is contentious and the pathophysiology is unknown. This study compared two commonly used frailty instruments, and identified biomarkers associated with frailty, in older Australian HIV+ men.

Methods: HIV+ men aged over 50 years, on ART for ≥6 months were enrolled between March and August 2015 in a Melbourne HIV referral centre. Frailty was assessed using the Frailty Phenotype (FP), and the Frailty Index (FI). Markers of immune activation (NGO3’8’-rTc cells), metabolic dysregulation (Glut1’ mean fluorescence intensity (MFI) of T-cells) and mitochondrial dysfunction (DiOC3’3’ MFI of monocytes) were measured by flow cytometry, and the inflammatory marker, sCD163, was measured by ELISA. Differences in co-variates between frail and non-frail groups using FP were tested using Kruskal-Wallis tests, and correlations with the FI using Spearman’s rho. Linear and logistic regression models were constructed.

Results: 84 HIV+ men completed both clinical and laboratory aspects of the study; median age 59 years; 95% Caucasian, 93% had undetectable viral load. Using the FP, 10% (n=8) were categorized as frail, 52% (n=44) pre-frail and 38% (n=32) robust. The median FI score was 0.13, (0.25 was the cut-off between frail and non-frail), with 23% (n=19) categorised as frail on the FI. HIV+ pre-frail and frail men (using the FP) had higher levels of inflammation than robust men (mean plasma sCD163 3.07 vs. 2.35 ng/ml, respectively, p=0.015), remaining significant on multivariable analysis. The FI correlated with markers of inflammation, metabolic dysregulation and mitochondrial dysfunction (sCD163 p=0.263, p=0.036, Glut1 3’ FI and DiOC3’3’ MFI on non-classical monocytes p=0.246, p=0.049; p=0.248, p=0.048 respectively) with Glut1 and DiOC3’3’ remaining significant in multivariable analysis. Neither the FI nor the FP were associated with T-cell immune activation.

Conclusions: Frailty in older HIV+ men on ART using both tools was correlated with inflammatory marker, sCD163. The Frailty Index was also associated with markers of metabolic dysregulation and mitochondrial dysfunction in the inflammatory non-classical monocytes. Our findings do not support an association between frailty and T-cell immune activation.

Conclusions: A potential protective role of C1 ligands alone or in combination with 2DL2, 2DL3 and 2DS2 was identified in HIV-1 acquisition and longer time to seroconversion. There was a higher risk of acquisition and shorter time to seroconversion in individuals who possessed C2 ligands only or in combination with 2DL3.

Table 1: The frequency and effect of KIR: HLA ligand genotypes on HIV status and time to seroconversion

<table>
<thead>
<tr>
<th>KIR Genotype</th>
<th>HIV status</th>
<th>Time to seroconversion</th>
<th>Percent</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>51%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DL2/C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>57%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DL2/C1C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>32%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DL3/C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>39%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DS2/C1C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>26%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DL2/2DL3/C1C1</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>24%</td>
<td>0.01*</td>
</tr>
<tr>
<td>Acquisition C2C2</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>15%</td>
<td>0.01*</td>
</tr>
<tr>
<td>2DL2/2DL3/C2</td>
<td>Acquiring</td>
<td>0.001*</td>
<td>5%</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

Conclusions: A potential protective role of C1 ligands alone or in combination with 2DL2, 2DL3 and 2DS2 was identified in HIV-1 acquisition and longer time to seroconversion. There was a higher risk of acquisition and shorter time to seroconversion in individuals who possessed C2 ligands only or in combination with 2DL3.

[Table 1: The frequency and effect of KIR: HLA ligand genotypes on HIV status and time to seroconversion]
Methods: Neutrophils were isolated from blood of individuals a few days after HIV infection and followed up to chronic stage of infection. In order to identify the mechanisms of neutrophil dysfunction during HIV infection we employed RNA sequencing (RNAseq) and Liquid chromatography-mass spectrometry/mass spectrometry (LC-MS/MS) for the molecular analysis of neutrophils gene expression and proteomic profiles respectively. Understanding the earliest immunologic events during acute HIV infection is critical to inform understanding of the pathogenesis of HIV and treatment efforts.

Results: A number of genes and proteins where differentially expressed between the neutrophils of acute HIV patients and controls at different time points. Using ingenuity pathway analysis, the modulated genes and proteins represented the canonical pathway of cellular detoxification, oxidative stress, inflammation and immune responses.

Conclusions: Elucidating the neutrophil gene and protein expression changes that are driven by acute HIV infection provide a better understanding of the impact of acute viremia on the function of this vital immune subset. This may uncover novel mechanistic links between acute HIV infection and increased susceptibility to pulmonary infections such as tuberculosis.

**ANTIBODY DIVERSITY AND FUNCTION**

**THEPA007**

**CRYSTAL STRUCTURES OF A BROADLY NEUTRALIZING ANTI-HIV ANTIBODY TARGETING THE V2/AXEP EPITOPE ON HIV ENV AND ITS UNMUTATED COMMON ANCESTOR**

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**Background:** Understanding the evolution of broadly neutralizing antibodies against HIV during natural infection is fundamental to the design of a vaccine that elicits broadly neutralizing antibodies. Here, we focus on the evolution of a lineage of broadly neutralizing antibodies targeting the apex of HIV Env, using monoclonal antibodies and deep sequencing derived variants from over the course of 3 years of natural infection.

**Methods:** Phylogenetically related monoclonal antibodies targeting the V2/apex of HIV Env were isolated from IAVI Protocol C Donor PC64 at 4 time points, showing an increase in neutralization breadth over time. Further, deep sequencing of donor peripheral blood mononuclear cells and filtering based on similarity to the isolated monoclonal antibodies led to the identification of further heavy chain variants from this lineage. In particular, a variant with 99.6% identity to a human germline V-gene was identified. It was paired with a germline-reverted light chain for further characterization as an unmutated common ancestor (UCA) of the antibodies. Select antibodies were expressed as fragment antigen-binding (Fab) fragments and subjected to extensive crystallization screening (384 conditions) to obtain crystal structures.

**Results:** Structures of the UCA and of PC64_26, one of the broadest and most systematically mutated antibodies in the lineage, were determined. Thus, in addition to comparing these structures to those of previously determined broadly neutralizing antibodies to get the same region, we were also able to compare the UCA and its mature counterpart and map the evolutionary changes to gain a greater understanding of the evolution of the lineage over time - in particular, to map the changes that correspond to the development of heterologous breadth.

**Conclusions:** Our findings constitute important first steps towards a comprehensive structural understanding of the evolution of antibody breadth in Donor PC64. Further studies will be focused on the intermediate members of the lineage and on obtaining sequence and structural information regarding the antibody-Env interactions that drove the development of these broadly neutralizing antibodies.

**THEPA008**

**IDENTIFICATION OF HIV-1 MPR-DIRECTED BROADLY NEUTRALIZING ANTIBODIES FROM THE ACUTE-INFECTION COHORT RV217 SUBJECT 4052**

N. Doria Rosati1, S. Krebs4, W. Law1, M. Janjusevičiūtė1, M.A. Moody2, V. Dussart4, S. Gribouval1, A. Chenièvre1, I. Georgiev2, G.-Y. Chuang3, S. Tovanabutra2, A. Randiner1, R. Baker1, E. Cale1, S. Darko1, M. Loudier1, V.D. Kwon1, X. Wang1, D. Douek4, P. Kwong1, V. Polanović5, M. Rolland1, B. Haynes1, M. Robbi6, J. Mascola1

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**Background:** Insight into the natural development of broad and potent HIV-1 neutralizing antibodies (bNAbs) provides critical clues for vaccine design. Several known bNAbs that target the Env membrane-proximal region (MPR) are broadly cross-reactive, neutralizing over 90% of global strains, making the MPR an attractive target for vaccine design. However, the developmental pathways of these bNAbs are unknown.

**Methods:** Individuals within the RV217 acute-infection cohort were longitudinally assessed for neutralizing antibodies starting at 30 days post-infection. The serum neutralizing activity was mapped by peptide competition, activity against chimeric viruses, and neutralization fingerprinting. MPR peptide tetramers were used to sort antigen-specific B cells, and IgG genes were recovered and expressed from single cells. Neutralization was assessed using single-round-of-infection Env-pseudoviruses on TZMBi cells. Binding and neutralization patterns of the isolated antibodies were compared to the known MPR-directed antibodies 4E10, 108E, and 2F5.

**Results:** We identified a donor, RV217-4052, who developed bNAbs after 21 months. This donor had been superinfected between months 5 and 13. Serum neutralizing activity was mapped to the MPR. We isolated and expressed IgG genes from month 21, and identified three lineages of MPR-directed bNAbs. (1) RV217-VRRC42.01 is genetically similar to 4E10. It neutralized 93% of a 200-virus cross-clade panel, with a signature that correlates strongly with 4E10 and 108E. Lineage members bound to autologous virus gp140 proteins as well as MPR peptides, and mapped to an epitope similar to 4E10 and 108E at the MPR C-terminus. (2) RV217-VRRC43.01 is genetically unrelated to other known MPR bNAbs. It neutralized 63% of a 200-virus cross-clade panel. Neutralization mapping suggests an epitope in the central portion of MPR. The RV217-VRRC42 and -43 lineages bound to cardiolipin, indicating autoimmune similarity to 4E10. (3) RV217-VRRC46.01 uses the same VH gene as RV217-VRRC42 but is not somatically related. It neutralized 13/29 viruses and binds to the gp140 derived from primary but not superinfecting autologous virus.

**Conclusions:** Mapping the co-evolution of virus with multiple neutralizing antibody lineages from the earliest timepoints in acute infection will yield new insights into how HIV MPR-directed broad neutralizing antibodies develop. Such insights will be invaluable for rational vaccine design.

**THEPA009**

**IMPACT OF HAART ON ACTIVATION AND EXHAUSTION OF B CELL SUBPOPULATIONS IN PEDIATRIC HIV INFECTION**

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Presenting author email: ravinder.rathore.singh@gmail.com

**Background:** Limited information is available on the effect of highly active antiretroviral therapy (HAART) on activation and exhaustion of B cell subpopulations in HIV infected children less than 5 years of age. Hence, we undertook this study to unveil the effect of HAART in a cohort of treatment naive HIV infected children.

**Methods:** Four-color flow cytometry was performed to evaluate the expression of CD86 and PD-1 on naïve (p=0.002), NSM (p=0.0005), SM (p=0.0001) and PD-1 on naïve healthy children (p=0.001).

**Results:** Twenty-seven HIV-1 infected children with a median (IQR) age of 22 (12-44) months were enrolled. Compared to healthy controls, HIV infected children displayed higher expression of CD86 on naïve (p=0.002), NSM (p=0.0005), SM (p=0.0001) and DMM B cells (p=0.0001). Similarly, the expression of PD-1 on naïve
T-CELL IMMUNE RESPONSES (CD4 AND CD8)

THPEA10

IMPACT OF HIV-ART ON TH17 AND TREG SUBPOPULATIONS IN BLOOD AND GENITAL MUCOSA

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Background: Th17 and Treg cells play a key role in HIV infection. The aim of this study was to analyze the effect of antiretroviral therapy (ART) on these T-cell subsets in peripheral blood and female genital mucosa (FGM) employing different patient groups.

Methods: PBMCs and cervical mononuclear cells (CMCs) from FGM were obtained from the following groups: HIV (+ve); HIV+ART+ (>3 years on ART, n=15); HIV+ART− (<1 year on ART, n=15); and HIV− (n=15). Th17 and Treg cells were stained with specific markers and analyzed by flow-cytometry. Cytokines secreted by CMCs were measured by Cytometric Bead Array.

Results: In PBMCs %Th17 in HIV+ART+ was higher than in HIV− (p<0.001), and reached values similar to HIV+, whereas significant lower Th17 values were found in HIV− in relation to the other groups. Th17/Treg ratios were also incremented after ART (HIV+ART+: medians: 0.22 vs HIV−: 0.03; p<0.01) and these levels resulted similar compared to those found in HIV− (p=0.13). However, percentages of Treg cells in HIV+ART+ and HIV− were comparable (1.52 and 0.97, respectively) and both resulted higher in relation to HIV+ART− (0.76 and 0.105). HIV+ART− showed lower T-cell activation than HIV− (4.96 vs 11.66, p<0.002) but still remained at higher levels compared to HIV− (3.11, p< 0.01). Importantly, ART did not increment CD4+/CD161+ counts (gut-homing Th17 precursor population), as no differences were found in HIV+ART+ vs HIV− and both groups had significantly lower values compared to HIV+. At genital mucosa level we observed that CMCs from HIV+ART− secreted lower levels of IL-17A and IL-10 than HIV− upon stimulation (IL-17A: 6.61 pg/ml vs 32.88 pg/ml, p<0.025; IL-10: 1.27 pg/ml vs 8.10 pg/ml, p<0.015). Importantly, we observed in HIV+ART+ patients with detectable levels of NSM-17F from CMCs, a positive correlation with higher counts in peripheral blood were incremented, but Treg were still augmented. Importantly, Conclusions: Although HAART was able to reduce the expression of activation and exhaustion markers on B cell subpopulations in HIV infected children, yet complete normalization was not observed at 1 year of HAART.

THPEA11

MODIFICATION OF THE HIV-SPECIFIC CD8+ T-CELL RESPONSES IN AN ELITE CONTROLLER AFTER CHIKUNGUNYA VIRUS INFECTION

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Background: Chikungunya virus (CHIKV), the arbovirus that causes Chikungunya fever, can produce a transient depletion of CD4+ T-cells. Here, we present data of an HIV Elite Controller (EC) who acquired CHIKV infection.

AIM: To evaluate the impact of transient CD4+ T-cell depletion on the CD8+ T-cell (CTL) quality response.

Methods: Three blood samples, post-CHIKV infection, were obtained at: 3 weeks (Sample 1,51), 6 weeks (S2) and 52 weeks (S3). Other 15 EC samples were evaluated for comparison. CD4-counts, viral load (VL) and immune activation were recorded. Phenotypic (CD45RO/CCR7) and functional markers (cytokines/CD107) were evaluated to characterize the HIV-specific CTL quality. Gpi120-specific IgG/IgA levels were assessed. Data was analyzed using non-parametric statistics.

Results: A male HIV- EC (median CD4-counts: 702 cells/µl (574-1161), VL<50 copies/ml and HAART-naive over 10 years), was confirmed for CHIKV infection. At S1, his CD4-count dropped to 2125cells/µl, presented a blip of HIV VL (1450copies/ml) and high immune activation. All parameters were recovered by S3. Polyfunctionality was dramatically distorted in S1 and S2 presenting higher %monofunctional CD107+ HIV-specific CTLs (p<0.005 and p<0.01) and lower percentage of bi- and tri-functional CTLs (p<0.002 and p<0.009), compared to the EC control group. Also, higher percentage of fully-differentiated HIV-specific CTLs was observed (p<0.01). In contrast, the %Treg-CTLs decreased (p<0.008). Polyclonality showed an ongoing recovery by S3, presenting decreased of %CD107+ CTLs and increased bi-functional (CD107+/IFN-γ+) CTLs, mirroring the results observed in typical EC. However, the distribution of CTL memory subsets still displayed an altered profile. Antibody responses didn’t change over time and were similar to that of EC.

Conclusions: This is the first report where the HIV-specific CTL response was studied in an EC co-infected with CHIKV. The results showed that HIV-specific CTLs presented the capacity to control the transient HIV viral rebound concomitant to the co-infection. This capacity was related to an increased proportion of degranulating CTLs, occurring even in the context of presumably non-optimal CD4+ T-cell help. These results provide useful information to understand how EC maintain their status, control HIV infection and alert of the negative impact to the immune function of HIV-infected patients living in CHIKV endemic areas.

THPEA12

CELLULAR IMMUNE CORRELATES OF BROADLY NEUTRALISING ANTIBODIES IN PAEDIATRIC SLOW PROGRESSOR CHILDREN

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Background: Without antiretroviral therapy (ART), disease progression following HIV infection is typically much faster in children compared to adults. However, a subgroup (“5-10%”) of HIV-positive, ART-naive children, maintain normal-for-age CD4 counts despite persistent high viremia. Here, we investigate the cellular and humoral responses in a cohort of slow progressors.

Methods: We studied ART-naive HIV-infected children aged 5-55 years, age-matched controls and adult controls matched for viral load and CD4 count. Phenotypic characterisation of T-cells was undertaken using mAbs specific for CD5, CD8, CD40, CD127, CD56, CRTH2. Functional characterisation of CD4+ T-cells was performed after 5 hour stimulation with PMA/Ionomycin and intracellular staining for 8 cytokines using a BD FACS Aria cell sorter. IL-4, IL-5, IL-13 levels in cell culture supernatant of 7 days ex vivo stimulation with ConcanavalinA were quantified by Luminex. mRNA of stimulated cells was extracted using a iScript cDNA Synthesis kit (BioRad) and cytokine expression levels quantified using a LightCycler 480 PCR system (Roche). Antibody neutralization was measured in plasma using the TZM-bl cell assay with Env-pseudotyped viruses. Breadth was defined as neutralization of >40% of a large multi-subtype panel.
MUCOSAL IMMUNITY

THP1401
MUCIN-BINDING IgG: CHARACTERIZING A NOVEL ANTIBODY EFFCTOR FUNCTION AND DISCOVERY OF A NEW FC RECEPTOR

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Background: MUC16 is a major component of the glyocalyx that protects the epithelial barrier of the upper female reproductive tract (FRT). We have recently published an IgG binding function in a fragment of MUC16 (MUC16RnD). Increased IgG binding was observed in the sera of HIV-infected individuals. Surface Plasmon Resonance (SPR) analysis revealed the IgG interaction with the MUC16RnD is Fc-mediated. Removal of the Fc glycan leads to increased binding while enzymatically modifying the antibodies to the G0 glycoform gave tightest binding (6.2 ± 3.2 mK, for VRC01). In contrast treating MUC16RnD with PNGaseF to remove N-linked glycosids caused an ablation of IgG binding, revealing that mucin glycosylation is necessary for binding.

Methods: We isolated IgG from the serum of HIV-infected rhesus macaques (RAM) and determined IgG from serum of chronically HIV-infected individuals. Human and RAM IgG populations that associate with MUC16 were then interrogated for their antigen specificity through a Luminescence assay and effector function through FcyR ELISA and a fluorescent ADCC assay. Finally we subcloned out smaller fragments of MUC16 to precisely identify the IgG binding region and mutated N-linked glycosylation residues that could contribute to binding.

Results: Analysis of the MUC16 associated IgG from infected macaques revealed that MUC16 associated antibodies were enriched approximately 8-fold for gp41 specificity. Reduced ADCC and FcyR engagement were observed in these MUC16 associated IgG populations relative to the input IgG, highlighting Fc specialization and a unique effector function profile. Subcloning revealed a ~300 amino acid region of MUC16 containing the major IgG binding activity. Mutagenesis of the single N-glycosylation site therein greatly decreased IgG binding.

Conclusions: These results reveal that MUC16 has at least one Fc receptor with nanomicron binding to the G0 glycoform. The population of IgG binding to MUC16 is distinct from the FcyR binding and ADCC acting population. The increased amounts of gp41 specific IgG binding to MUC16 indicates that a specific antigen response is naturally targeted to MUC16. Through dissection of the precise mucin domain where IgG binds we can exploit the glyocalyx to create an antibody shield to prevent HIV from breaching mucosal barriers.

VIRUS ESCAPE FROM ADAPTIVE IMMUNITY

THP1415
ROLE OF MYELOID DERIVED SUPPRESSIVE CELLS ON ECOCN EVASION FROM VACCINE INDUCED T CELL IMMUNE RESPONSE

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Background: Innate immune responses are critical for initiating the CD8 T cells responses for the resolution of infection, and aberrant innate immune response, such as expansion of myeloid derived suppressive cells (MDSC) induced by some viral infection contribute to persistent infection by suppression of T-cell function. Role of innate immune response on prophylactic effects of vaccination has not been carefully studied.

Methods: Balb/c mice were immunized with sPD1-p24 /EP vaccine through intra-muscular. After 4 weeks, immunized and non-immunized mice were challenged with EcO95 via i.p. route. Five mice in each group were euthanized at 1, 2, 3 and 12 weeks post inoculation (wpi). Blood and lymphoid tissues were collected for analysis of virus infection, immune response and T cells function.

Results: Immunization in mice elicited high densities of p24-specific IFN-γ+CD8+ T cells, with on around, 45% of total splenic CD8+ T cells. However, provirus DNA was readily detected in PBMC and spleen in all of the infected mice at every time point.
point tested with no detectable resistant mutations. Compared to non-immunized mice, provirus copies in immunized mice was reduced 2.52 fold at 1, and 2.63 fold at 2 wpi with slight decrease over the following weeks. Infection of mice led to an increase in MDSCs in spleen as early as 7 dpi, which was enhanced at 2 wpi and sustained throughout chronic infection. Expansion of MDSC was associated with decreased p24-specific CDB T cell numbers (15% at 2 wpi and decreased overtime by more than 50%), and increased surface expression of PD-1 and Tim 3 and provirus copies. Importantly, MDSCs were primarily infected, and potently suppressed p24-specific memory CDB T cells proliferation in a dose dependent manner. Depletion of MDSC recovered CDB T cells proliferation in vitro.

Conclusions: MDSCs infection and expansion at early stage of infection likely have a critical role in rendering virus resistant to vaccine protection by serving as viral reservoir and suppression of CDB T cells memory recall and function. This study has important implication for future vaccine strategy design.

MECHANISMS UNDERLYING IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (IRIS)

THPEA016
THE EFFECTS OF PREBIOTICS ON MICROBIAL DYSBIOSIS, BUTYRATE PRODUCTION AND IMMUNITY IN HIV-INFECTED SUBJECTS

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Background: Altered interplay between gut mucosa and dysbiotic bacteria during HIV infection seems to contribute to chronic immune dysfunction. Nutritional interventions exert immunologic effects, but a deep understanding of how these interventions could ameliorate gut dysbiosis and influence health among HIV-infected individuals remain unexplored. cts

Methods: Forty-four subjects, including 12 HIV+ viremic untreated (VU), 23 antiretroviral therapy-treated (ART+) viremically suppressed (15 immunological responders and 8 non-responders) and 9 HIV- controls (HIV-), were blindly randomized to receive either prebiotics (scGOS/lcFOS/glutamine) or placebo (34/11), during 6 weeks. We measured HIV-1 recovery in ex-vivo cells first activated by PHA and treated with NAD for 48 hours and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine serum. While CD8+ cell depletion activated PBMCs with PHA alone and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine sera were used as control samples.

Results: NAD induced purging in 12 out of 15 subjects. Three days after treatment with NAD, culture supernatants were tested for viral load using qPCR and the results revealed HIV-1 emergence from day 4th-day 18th (median 7 days) with viral load from 2.5 log10 to 7.0 log10 (median of 6.2), whereas viruses were not detected in control experiments. Relating viral emergence with clinical parameters showed that culture positivity is independent of CD4+ T cell nadir, time of viral load below detection limits, antiretroviral scheme and viral tropism.

Conclusions: Certain Sirtuin substrates can be tied to pathogenesis of diseases (like cancer) infections (HIV-1) and metabolic disorders. Hence NAD, being inhibitor of Sirtuin1, can be promising in flushing out the reservoirs. Since NAD is also depleted in HIV-1 patients, it may further help in regulating the redivo environment, without any significant toxicity.

THPEA017
SIRTUIN 1 INHIBITOR NICOTINAMIDE DISRUPTS HIV-1 LATENCY

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Background: Quiescent, integrated, replication competent latent provirus is the biggest hurdle in sterilizing cure. This latent pool doesn’t diminish unless the cells carrying it die by apoptosis or be succumbed to cytopathic effect once viral replication is induced by antigenic stimuli. In the walk of breaking this dormancy of HIV, various histone dependent and independent activators and inhibitors are being used to flush this latent reservoir. Nicotinamide (NAD) is a Sirtuin 1 (Class III deacetylase) inhibitor. Sirtuin 1 naturally deacetylates p65 subunit of NFκB which being deacetylated cannot recruit P-TEFb on LTR. NAD blocks this pathway facilitating recruitment of TFs and Polymerase II to LTR of HIV, thus breaking latency in an antilatent fashion and creating a hyper activation cell state.

Methods: CD8+ T-cell depleted PBMCs isolated from 15 HIV-antiretroviral-treated patients with undetectable viral loads over a period of two years were used. We measured HIV-1 recovery in ex-vivo cells first activated by PHA and treated with NAD for 48 hours and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine serum. While CD8+T-cell depleted PBMCs activated with PHA alone and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine sera were used as control samples.

Results: NAD induced purging in 12 out of 15 subjects. Three days after treatment with NAD, culture supernatants were tested for viral load using qPCR and the results revealed HIV-1 emergence from day 4th–day 18th (median 7 days) with viral load from 2.5 log10 to 7.0 log10 (median of 6.2), whereas viruses were not detected in control experiments. Relating viral emergence with clinical parameters showed that culture positivity is independent of CD4+T cell nadir, time of viral load below detection limits, antiretroviral scheme and viral tropism.

Conclusions: Certain Sirtuin substrates can be tied to pathogenesis of diseases (like cancer) infections (HIV-1) and metabolic disorders. Hence NAD, being inhibitor of Sirtuin1, can be promising in flushing out the reservoirs. Since NAD is also depleted in HIV-1 patients, it may further help in regulating the redivo environment, without any significant toxicity.

THPEA018
THALIDOMIDE REVERSES LATENCY OF HIV-1 PROVIRUS

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Background: Chronic immune activation is a hallmark of HIV infection, one of the triggers of which is the breach in the integrity of mucosal immune system and microbial translocation which in turn determines the rate of progression to AIDS. Thalidomide is a derivative of glutamic acid that besides being an inhibitor of TNF-α and having an anti-inflammatory property has immunomodulatory and anti-oncogenic properties as well. Thalidomide and its analogues have been shown to have phosphorylation activity of certain transcription factors (TFs) and cell surface receptors, involved in cell signaling.

Since HIV transcription utterly needs active cell state with upregulated TFs and their triggers of which is the breach in the integrity of mucosal immune system and microbial translocation which in turn determines the rate of progression to AIDS, Thalidomide is a derivative of glutamic acid that besides being an inhibitor of TNF-α and having an anti-inflammatory property has immunomodulatory and anti-oncogenic properties as well. Thalidomide and its analogues have been shown to have phosphorylation activity of certain transcription factors (TFs) and cell surface receptors, involved in cell signaling.

Since HIV transcription utterly needs active cell state with upregulated TFs and their access to viral genome, we tested Thalidomide for its potential in reactivating HIV-1 from latency.

Methods: CD8+ T-cell depleted PBMCs isolated from 15 HIV-antiretroviral-treated patients with undetectable viral loads over a period of two years were used. We measured HIV-1 recovery in ex-vivo cells first activated by PHA and treated with thalidomide for 48 hours and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine serum. While CD8+ T-cell depleted PBMCs activated with PHA alone and then cultivated in RPMI medium supplemented with IL-2 and fetal bovine sera were used as control samples.

Results: Thalidomide induced purging in 6 out of 7 subjects. Second day after treatment with Thalidomide, culture supernatants were tested for viral load using qPCR and the results revealed HIV-1 emergence at day 4th with viral load from 2.2 log10 to 6.0 log10 (median of 5.7), whereas viruses were not detected in control experiments. Relating viral emergence with clinical parameters showed that culture positivity is independent of CD4+ T cell nadir, time of viral load below detection limits, antiretroviral scheme, viral tropism and subtype of virus.
Conclusions: Our results show that Thalidomide is causing purging of HIV by an unknown mechanism so therapeutic manipulation with this drug can generate particular interest. A better understanding of its pharmacology and its sensitive targets is needed to harness the full potential of this agent in HIV-infection.

Targeting HSF1-Mediated Stress Response Can Enhance HS90 Inhibitor-Induced Suppression of HIV-1 Reactivation from Latency

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Background: The state of latency, when HIV-1 persists in cellular reservoirs, allows the virus to avoid eradication and be reactivated afterwards. It was previously shown that heat shock protein 90 (Hsp90) is required for HIV-1 reactivation from latency, so that inhibitors of the Hsp90 chaperone activity can suppress this reactivation and be considered as anti-AIDS agents. Taking into account that the Hsp90 dysfunction provokes the heat shock transcriptional factor-1 (HSF1)-mediated up-regulation of inducible Hsp90, Hsp70, Hsp27, MDR1/Pgp, we hypothesized that such accumulation of stress-proteins in cellular reservoirs somewhat assists the virus and impairs the beneficial effects of HS90-inhibiting treatments. Here we examined whether the suppressive action of Hsp90 inhibitors on the HIV-1 reactivation can be enhanced by targeting HSF1.

Methods: The HIV-1 reactivation was studied in cultured J-Lat cells. 17AAG and AU9292 were used as cell-permeable inhibitors of Hsp90. The HSF1-mediated stress-response in the HS90 inhibitor-treated cells was blocked by co-treatments with quercetin or KNA437. Expression of the (co)chaperones and inducible stress-proteins was analyzed by immunoblotting and immunoprecipitation.

Results: It was found that inhibition of the Hsp90 chaperone activity with 17AAG or AU9292 does suppress the HIV-1 reactivation in the drug-treated cells; however, it is also accompanied by the HSF1 activation and up-regulation of the cellular levels of inducible chaperones (Hsp90, Hsp70 and Hsp27) and Pgp (a drug-excluding membrane pump).

In the case of inhibitory co-treatments (17AAG or AU9292 + quercetin or KNA437), no increase in the cellular levels of inducible stress-proteins or Pgp took place despite the dysfunction of Hsp90-dependent chaperone machine. Importantly, such a combination of the two inhibitors simultaneously targeting the Hsp90 activity and the HSF1-mediated stress response stronger suppressed the chaperone-dependent HIV-1 reactivation from latency, as compared with the action of Hsp90 inhibitors alone.

Conclusions: The suppressive effects of HS90-inhibiting drugs on the HIV-1 reactivation from latency are partly impaired by the newly induced chaperones and Pgp. Of significance, we recently showed that a DC-based HIV-1 vaccine increased the HSF1 activity in CD25+/HLA-DR+ T-cells, luciferase expression persisted but in the CD69+CD25+HLA-DR+ cells, luciferase activity was downregulated. There was minimal luciferase expression from the small (non-blast) cells. Following mitogen re-stimulation, luciferase expression increased maximally in the CD69+CD25+HLA-DR+ blasts, consistent with the establishment of latency within these cells.

Following infection with pseudotyped viruses containing either NL4-3 or patient-derivedLTRs, we showed that the LRAs recombinant and long-term infection had the most potent effect on LTR reactivation. Finally, there was no difference in the response to the LRAs following infection with pseudotyped viruses containing patient-derived LTRs.

Conclusions: We have generated a new model of post-activation HIV latency to screen LRAs using patient-derived LTR viruses. In these patients, the LTR sequence alone did not determine the potency of response to an LRA.

Therapeutic Immune Recovery Prevents Emergence of CXCR4-Tropic HIV-1

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Swiss HIV Cohort Study

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Background: In the absence of therapy CXCR4-tropic HIV increases over time, associated with an accelerated disease progression. In most successfully treated patients the situation is quite different: The majority harbors CXCR4-tropic variants in the circulation. As antiretroviral therapy itself may be responsible for reducing CXCR4-tropic HIV-1 this study aimed at monitoring the abundance of CXCR4-tropic viral sequences in infected cells during suppressive antiretroviral therapy.

Methods: For a group of patients in the Swiss HIV Cohort Study with documented suppressive ART, all carrying subtype B virus, the relative frequencies of CXCR4-tropic proviral HIV-1 variants in circulating PBMC were assessed by next generation sequencing and interpretation by Geno2Pheno (PPR 3.5%, RS-X4+ 2%) before and after treatment initiation. Aside from a continuous viral suppression a steady CD4 T cell recovery under ART was documented for all patients. Viral phylogenetics and evolution were analyzed.

Results: In 28 of the 35 patients (80%) we observed that frequencies of CXCR4-tropic provirus decreased or in fewer remained stable under therapy. This is in contrast to the situation in untreated patients. In the 7 other individuals (20%) the frequency of CXCR4-tropic provirus increased. In all these latter cases a single viral variant emerged, which was already detectable at time points before therapy initiation. Although a certain proviral sequence evolution was demonstrable in >50% of all patients under therapy this growing diversity was not associated with a similar frequency increase of CXCR4-tropic proviruses.

Conclusions: Our study demonstrates that under successful therapy particularly those cells that are infected with CXCR4-tropic HIV decline in most patients, leading to an overrepresentation of CCR5-tropic provirus. This indicates a preferential pressure on cells harboring CXCR4-tropic envelopes. Such a progressive proviral reduction in the immune-competent host could eventually lead to the selective depletion of the pool of CXCR4-tropic HIV in successfully treated individuals, paralleling the improving immune response. A better understanding of the underlying mechanism and of the involved cell type may provide crucial information for the new strategies towards HIV eradication.

Therapeutic immunity and cytokines can effectively reinstitute both the immunologic ‘kick’ and ‘kill’ of latent HIV-1

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Background: While dendritic cells (DC) have been used safely in the clinic as a means of inducing CTL responses in the settings of cancer and HIV, recent in vitro and in vivo evidence suggest that they may also play a role in HIV-1 latency reversal. Of significance, we recently showed that a DC-based HIV-1 vaccine increased
residual viremia in cART-suppressed individuals following analytic treatment interruption. Here we investigate the degree to which DC maturation/polarization status affects the ability of DC to promote both HIV-1 latency reversal and CTL targeting of autologous HIV-1 reservoir antigen.

Methods: Using HIV-1-infected Multicenter AIDS Cohort Study participants on cART, and our previously published culture methods, we generated differentially polarized DC, as characterized by their combined surface expression of CD83, CD86, CCR7, OX40L, Siglec-1, and their IL-12p70 producing capacity. These DC were loaded with autologous HIV-1 antigen and used to test their ability to induce HIV-1-specific cytolytic CD8+ T cells (CTL). The DC were also tested for their ability to induce HIV latency reversal by co-culture with autologous CD4+ T cells in the absence or presence of efavirenz and/or antigen (SEB), respectively. Cellular and culture supernatant viral RNA content was quantified by qRT-PCR.

Results: Type 1-polarized DC (DC1), which were generated using a combination of inflammatory mediators and characterized by their increased expression of CD83/ CD86, CCR7, and IL-12p70, effectively induced both CTL responses and increases in transcription of proviral DNA from CD4+ T cells. Importantly, the increase in HIV-1 replication observed using DC1 was antigen-dependent. In contrast, IL-12p70-deficient, OX40L-expressing, type-2-polarized DC (DC2) generated in the presence PGE2, exhibited a decreased capacity to induce HIV-specific type-1 CTL responses or to promote HIV-1 latency reversal.

Conclusions: The ability of DC to promote either the "kick" or "kill" of the latent HIV-1 reservoir is greatly influenced by their maturation/polarization status. We show that DC1 are superior to DC2 in both functions. This critical information is currently being used in development of a potentially effective personalized DC1-based immunotherapeutic approach towards curing HIV-1 infection.

SYSTEMS BIOLOGY APPROACHES TO HIV INFECTION

THPEA023
ASSOCIATION OF THE CHEMOKINE STROMAL-DERIVED FACTOR-1 (SDF-1) GENETIC POLYMORPHISM WITH TRANSMINUTIS IN HIV-INFECTED THAI WHO ARE ON COMBINED ANTIRETROVIRAL THERAPY

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Background: Liver disease has emerged as one of the major causes of death in HIV-infected patients who are on combined antiretroviral therapy (ART). The chemokine stromal-derived factor-1 (SDF-1) has an important role in homing of immune cells to the liver and an increase of SDF-1 levels has been demonstrated to be associated with acute and chronic liver injury. This study was aimed to determine frequency of SDF-1 gene polymorphism and its association with transaminits in HIV-infected patients on combined ART.

Methods: A single-center cross-sectional study was conducted from October 13, 2011 to 2013 in Thai HIV-infected patients. Combination ART was received by 71.4% of the patients, median duration; 39 (16-55) months. They were examined for transaminits as defined increased levels from the upper normal limits of aspartate aminotransferase (AST) and/or alanine aminotransferase (ALT), hepatitis B or C coinfection and distribution of SDF-1 gene polymorphism, a G to A transition at position 801 in 3'UTR region, in the patients by tetra-primer polymerase chain reaction. Logistic regression analyses were performed to determined risks for transaminits in the studied group.

Results: Of 164 HIV patients, rate of transaminits was 28% and prevalence of hepatitis B virus (HBV) coinfection, hepatitis C virus (HCV) coinfection and HBV/HCV triple infection were 9.1%, 8.3% and 0.8% respectively. Genotype frequencies of AA, GA and GG in the studied group were 65.6%, 36.1% and 5.7% respectively. Chi-square test demonstrates a significant association between AA/GA genotypes and transaminits (p=0.014). In univariate logistic regression analysis, presented that AA/GA genotypes are significant risk factors of transaminits (crude odd ratio; 95%CI; 5.6; p-value: 2.5; 1.2-5.3; p=0.015), together with male gender (crude odd ratio; 95%CI; p-value: 3.7; 1.6-8.4; p=0.002) and hepatitis C virus (HCV) coinfection (crude odd ratio; 95%CI; p-value: 12.2; 2.4-61.5; p=0.002).

However, multivariate analysis indicated only coinfection with hepatitis C virus (HCV) as a significant risk of transaminits in this studied group (adjusted odd ratio 95%CI; p-value: 22.2; 2.5-199.1; p=0.006).

Conclusions: The SDF-1 3’A polymorphism is an independent risk for transaminits, potentially leading to severity of liver disease in Thai HIV-infected patients who are on long-term treatment of combination ART.

THPEA024
OPTIMAL RESOURCE ALLOCATION OF A FEMALE SEX WORKERS HIV PREVENTION INTERVENTIONS ACROSS DISTRICTS OF DIFFERENT SIZE AND PREVALENCE

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Background: HIV transmission in India is driven by high-risk groups such as female-sex workers (FSWs) and their clients. Interventions targeting FSWs have in the past been effective in reducing the number of HIV interventions by 42% over 4 years, but at a substantial cost ($258 million over 4 years). One of the reasons for this was the absence of guidance on how money should be allocated to districts of different size and prevalence. We combine modelling and cost data from a large FSW intervention to consider best strategies for allocation of resource across different districts as well as exploring the optimal intervention combination necessity.

Methods: A model for HIV transmission amongst FSWs and their clients was parametrised using behavioural and cost data from a large-scale FSW intervention in India and calibrated against reported HIV prevalence. We simulated different combinations of scale and intensity HIV condom-use prevention intervention, and projected the optimal allocation of resources across districts of different size and prevalence.

Results: Across each district the optimal intervention combines initial intensity increase with intervention scaling-up and a final increase in intensity when all FSWs are reached. Small budget levels (~$31 per FSW reached) can be allocated regardless of district size or prevalence with an optimal intervention of low scale and increasing intensity that averts a small number (~3%) of HIV infections averted. Budget between $31-$94 per FSW required scales up of the intervention and should be allocated to either more prevalent (of same size) districts or the larger (of same prevalence) districts. When choosing between larger but less prevalent district and smaller but more prevalent one, resource would be allocated to the smaller more prevalent district up to certain district size. Budget above $94 per FSW reached need to be split between different districts.

Conclusions: Both size and prevalence of districts are important in deciding how to optimally allocate available resources with a combination of scaled-up and intensity focus interventions in line with the recent UNAIDS/FUN recommendation in HIV intervention.

THPEA025
A NOVEL BISPECIFIC IMMUNOADHESIN DISPLAYS ENHANCED BREATH AND POTENCY AGAINST DIVERSE HIV-1 SUBTYPES IN VITRO AND IN HUMANIZED MICE

X. Wu, J. Guo, M. An, Z. Chen
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Background: Without an effective vaccine for eliciting broadly neutralizing antibodies (bNAbs), passive immunization using existing bNAbs, Ab-like immunoadhesins (IAbs) or bi-specific bNAbs/IAbS becomes an attractive strategy for human immunodeficiency virus (HIV) prevention and immunotherapy. We aimed to generate a bi-specific IA (BiIA) with improved breadth and potency against diverse HIV-1 subtypes.

Methods: Based on the newly identified HIV-1 bNAbs, we have designed and constructed five secretory IAs (PG9, PG16, PGT128, hu5A8, VRC01) by linking the gene-optimized scFv of antibodies with the hinge and Fc regions of human IgG1. Bi-specific IAs were generated by either single gene encoded or “knobs into holes” methods. The breadth and potency of BiIAs were evaluated by a panel of 40 HIV-1 Env-pseudotyped viruses or three live viruses in vitro and their efficacy were assessed in humanized NSG mice.

Results: We found that one single gene-encoded bi-specific IA (combining PGT128 and hu5A8), namely BiIA-5G, neutralized 100% of the 40 viruses tested, including five transmitted/founder viruses and two viruses resistant to both parental IAs. The mean IC50 (1.122 nM) of BiIA-5G is significant better than that of parental PGT128 (68.1 nM) and hu5A8 (13.0 nM). Moreover, BiIA-5G achieved complete protection

NOVEL APPROACHES IN IMMUNOTHERAPEUTICS INCLUDING BNABS AND ANTI-INFLAMMATORY MEDIATORS

THPEA025
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against five HIV-1FRI and Transmitted/Founder HIVB257 challenges in humanize NSG mice. No infected cells were found in all tissue compartments tested including brain, spleen, lung, intestine, kidney and liver. Critically, AAV-delivered BIA-5G also exhibited complete suppression of viral replication in HIV-1FRI-infected animals.

Interestingly, spleenocytes derived from 2/5 treated mice did not cause new infections in new naive humanized NSG mice via adoptive transfer experiments.

Conclusions: Our results demonstrated that the novel BIA-5G is an attractive candidate of passive immunization for antibody-based prophylactics and immunotherapy.

B CELL-BASED VACCINES

THPEA026

EVOLUTION OF CROSS-NEUTRALIZING ANTIBODIES AND MAPPING EPTOPE SPECIFICITIES IN PLASMA OF CHRONIC HIV-1 INFECTED ART NAIVE CHILDREN FROM INDIA

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Background: Very little information is available on the neutralizing antibody response in HIV-1 infected children. In this study, we assessed the neutralizing antibody specificities, over time, in HIV-1 infected children from India.

Methods: We enrolled and followed up twenty ART naïve HIV-1 chronically infected children. Plasma neutralization activity at five time points was assessed against a panel of 14 pseudoviruses including subtype A, A/D, B and C using T2M cell line. Neutralization epitope specificities were determined using N322A, N156K, K169A and K171A mutant pseudoviruses. Max50 binding titres were determined by ELISA using consensus V3B, V3C, IDR, MPR-B and MPR-C peptides. CD4bs specificity of plasma antibodies was evaluated using CD4bs-selective probe RSC3 and its mutant RSC3Δ371/I/P363N for ELISA and for magnetic bead based depletion assays.

Results: This is the first longitudinal study to assess neutralizing antibody response and epitope specificities in HIV-1 infected children from India. All HIV-1 infected children (11 male and 10 female; median age: 9.5yrs; median CD4 count at baseline: 645cells/µl) were ART naïve, asymptomatic and had mother-child transmission. Twelve (60.0%) baseline and fifteen (75%) follow up samples neutralized ≥50% of the viruses tested. A modest improvement in neutralization breadth and potency was observed with time. At baseline Subtype C specific neutralization predominated (P=0.018); interestingly, follow up samples exhibited cross-neutralizing activity (P=0.098). None of the plasma showed N322A dependence while AIIMS_329 and AIIMS_350 showed N160K dependence, suggesting the presence of V1/V2 directed neutralizing antibodies. Epitope mapping revealed V3C reactive antibodies with significantly increased Max50 binding titres (0.043) in follow up samples. CD4bs specific antibodies were found in AIIMS_523 which improved with time (P=0.041). RSC3 depleted flow through of AIIMS_523 plasma demonstrated more than 50% ID50 decrease in the neutralization capacity against four pseudoviruses. Further, the presence of CD4 binding site specific plasma neutralizing antibodies of AIIMS_523 was confirmed by competition with sCD4 against JRFL gp120.

Conclusions: Improvement in plasma cross neutralizing activity with time, suggests the evolution of broadly neutralizing antibodies. V1/V2 and CD4bs directed plasma neutralizing activity seen in children identifies these individuals as potential candidates for the isolation of V1/V2 specific and CD4bs directed neutralizing antibodies.

THPEA027

MOLECULAR CHARACTERISTICS AND USE OF BOVINE IgG WITH BROAD HIV-1 NEUTRALIZING ACTIVITY FROM COLOSTRUM OF COWS VACCINATED WITH ENV-GP140 TRIMERS

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Background: HIV patient serum with elite virus-neutralizing breadth has led to preparation of monoclonal antibodies (mAb) with long and highly mutated CDRH3 domains that can neutralize a broad array of viral strains and prevent transmission in animal models. Primate vaccination has not matched these broad neutralizing antibody responses, but vaccination of a Holstein Friesian dairy cow (7004) before then during pregnancy with four 300µg doses of purified HIV-1 Env-gp140 trimers in adjuvant yielded vast quantities of polyclonal IgG in colostrum that binds HIV env-gp140 with titres of 1x10⁷ and neutralized all 27 Env (24-strongly, 3-moderately) from clade A, B and C reference panels. We explored the similarity and feasibility using bovine HIV-neutralising antibody in topical vaginal microbicide.

Methods: We repeat vaccinated cow 7004 during 2 subsequent pregnancies at either early then late interval, or just a late timepoint in the last trimester with 100µg of HIV-1 Env-gp1424, and harvested serum and colostrum. IgG was tested for Env binding by ELISA and neutralisation of pseudotyped reporter viruses. Circulating lymphocytes were collected 5 days after vaccination and draining lymph node at autopsy for isolation of IgG+CD19+memory B-cells. Single cell mRNA was used to prepare mAbs with matched chimeric bovine-VH and -VL with human C-regions from HIV gp140-binding IgG+ CD21+ circulating memory B-cells present at 0.66%. Results: Potent bovine IgG responses were sustained at equivalent levels through two ensuing pregnancies. 33 mAbs were selected that had long CDRH3 sizes ranging from 12 - 64 aas with a high Cys and aromatic aa frequency. Two mAbs, 6A and 8C, displayed strong binding to HIV-1 Env-gp140 uncleaved trimers, but not mono- mer, and bound cleaved covalently-stabilized HIV-1 Env DSF591400 trimers. The VH somatic mutation rate for 6A and 8C was 27% and 25% respectively and their 21 CDRH3 domains were 57% and 93% mutated from germline. Mutation of CDRH3 Cys or Trp eliminated the HIV-specific binding characteristics.

Conclusions: Reproducible production of large quantities of HIV-neutralizing polyclonal IgG from hyperimmune bovine colostrum shows its suitability and feasibility for testing as an HIV microbicide. The current bovine- V-region mAbs, despite strong trimer-specific binding, haven’t yet matched the broad neutralizing activity of the polyclonal IgG.

THPEA028

INTRANASAL VACCINATION WITH A LIVE RECOMBINANT RHINOVIRUS AND A DNA BOOST ELICITS HIV-SPECIFIC IMMUNITY THAT CONTROLS ECOHIV INFECTION IN MICE

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Background: Most HIV-1 transmissions occur via genitorectal mucosa, highlighting the need for vaccines that elicit mucosal immunity. HIV gag-specific cell mediated immunity (CMI) and anti-tat neutralizing antibodies are considered essential for long-term control of HIV. Thus, Gag and Tat are desirable components of a HIV vaccine. We developed a candidate mucosal vaccine by engineering a replication-competent human rhinovirus serotype A1 (HRV-A1) to encode Gag and Tat (HRV-Gag/Tat). Intranasal administration of this novel vaccine may generate robust pan- and systemic HIV-specific immunity. Thus, Gag and Tat are desirable components of a HIV vaccine. We developed a candidate mucosal vaccine by engineering a replication-competent human rhinovirus serotype A1 (HRV-A1) to encode Gag and Tat (HRV-Gag/Tat). Intranasal administration of this novel vaccine may generate robust pan- and systemic HIV-specific immunity.

Methods: Bab/lc mice (n=7 per group) were vaccinated intranasally with 2 doses (5x10⁵ TCID₅₀/dose) of HRV-Gag/Tat or WT-HRV then boosted intradermally with a 50 µg of a DNA vaccine encoding Gag and a novel oligomerised Tat (pVAXGag/Tat). Another group of mice received 3 intradermal doses (50 µg/dose) of plVAXGag/Tat. Splenocytes and lymphocytes from mesenteric lymph nodes were analysed for Gag-specific systemic and mucosal IgM by ELISPOT and IC. We also analysed blood and cervical vaginal lavage (CVL) samples for Tat-specific systemic (IgG) and mucosal (IgA), respectively.

Results: Peptide-stimulated lymphocytes from HRV-Gag/Tat vaccinated mice showed significantly higher numbers of effector memory CD8+T-cells producing IFN-γ, IL-2 and TNF-α (130 vs 62, P= 0.0192) than mice vaccinated with 3 doses of plVAXGag/Tat. The Tat-specific IgG titres were significantly higher in HRV-Gag/Tat vaccinated mice (titer:1:17704 vs 1:338, p=0.0221). Only HRV-Gag/Tat vaccinated mice developed detectable Tat-specific IgA (titer:1:100) in CVL samples after a DNA boost. HRV-Gag/Tat vaccinated mice developed a more pronounced superior control of ecocovirus infection (a surrogate murine HIV challenge model) in the peritoneal cavity and the spleen (2 log reduction in viral load) compared with wt-HRV vaccination. Experiments comparing the protective efficacy of heterologous prime-boost HRV-DNA vaccination to homologous prime-boost pVAXGag/Tat vaccination are currently ongoing.

Conclusions: Our data shows that rHRV-Gag/Tat has the potential to prevent or at least control HIV infection at the mucosa. We believe that this is the first time HRVs have been used to vaccinate against HIV and highlights the need to further test rHRV-Gag/Tat in large animals and humans.

NOVEL VECTORS AND STRATEGIES
THPEAO29

HIV-TAT FUSED TO THE OLIGOMERISATION DOMAIN OF THE C4-BINDING PROTEIN IS HIGHLY IMMUNOGENIC AND CONTROLS ECODIV CHALLENGE IN MICE

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Background: The HIV Tat protein is a promising component of a HIV vaccine. A DNA-based Tat vaccine would be a cheap, cost-effective and therefore readily accessible HIV vaccine to low-income communities which are greatly affected by HIV. However, native Tat is highly unstable, easily oxidised and degraded by proteolysis, which affects its immunogenicity. Thus, protecting Tat from these detrimental processes would be expected to improve Tat immunogenicity.

Methods: We have developed a candidate Tat-DNA vaccine (pVAX-sTat-IMX313) encoding Tat fused with the oligomerisation domain of a chimeric C4-binding protein (C4b-p), termed IMX313, resulting in Tat heptamerisation. To ensure that the bulk of heptamerised Tat is secreted, we linked Tat to the leader sequence of tissue plasminogen activator (TPA). Another DNA vaccine (pVAX-sTat) encoding Tat linked to TPA, but without IMX313 was also developed as a control. Balb/c mice (n=7 per group) were vaccinated intradermally with 5 doses (50 µg/dose) of pVAX-sTat-IMX313 or pVAX-sTat. Splenocytes were harvested 14 days after the last dose and analysed for Tat-specific cell-mediated immunity by ELIspot. Blood and cervical vaginal lavage samples were harvested prior to each dose and 14 days after the last dose and analysed for Tat-specific serum (IgG) and mucosal (IgA), respectively.

Results: Peptide-stimulated splenocytes from pVAX-sTat-IMX313 vaccinated mice showed higher Tat-specific IFN-γ responses than pVAX-sTat vaccinated mice (mean SFUs 601 vs 498). pVAX-sTat-IMX313 vaccinated mice developed higher titres of IgGs (~1: 65957 vs 35871) that showed higher inhibition of Tat transactivation activity (~80% vs 76% inhibition). IgA was detected in 7/7 (100%) of pVAX-sTat-IMX313- and in only 4/7 (57%) of pVAX-sTat-vaccinated mice. The EcoHIV viral load (a surrogate murine HIV challenge model) was reduced by ~11 fold in the peritoneal cavity (p=0.0022) and by ~7 fold in the spleen (p=0.0022) in pVAX-sTat-IMX313- compared with pVAX-sTat-vaccinated mice.

Conclusions: We believe that this is the first time secreted Tat has been fused to IMX313 to improve the immunogenicity of Tat-DNA vaccine and highlights the need to further test pVAX-sTat-IMX313 in large animals and humans.

Results: Daily QC over 12 days showed NCV values of < 8% for CD4+ and CD8+ using ‘Normal’ or ‘Low’ immunostat. Reproducibility data with both levels of immunostat showed excellent precision with 95% limits of agreement of ± 7%. Reproducibility using patient CD4 counts >700 cells/µl (high) and 300-500 cells/µl (medium), showed excellent reproducibility with CVs< 5%. CD4 counts < 400 cells/µl showed increased CVs ~11%. Differences were not clinically significant. Inter-instrument variability was negligible, with corresponding %similarity of 100±2.85% (CV's < 3%), and a bias of 12.9±21 cells (95% limit of agreement -40.2 to 66.1) in a cohort with CD4 counts from 2-1582 cells/µl (median 424 cells/µl). Samples aged for 5 days (23-1001 cells/µl) showed no statistically significant changes over 4 days. EQA panel data revealed overall accuracy (SDI values >0 - +2) for low and normal panel samples for CD4 and CD8+ respectively.

Conclusions: Internal and external quality control assessment material and a range of CD4 counts (patient samples) confirmed accuracy and excellent reproducibility of the Aquios PLG system over time. Accuracy was not impaired by sample age and inter-instrument comparisons showed minimal bias, making the Aquios platform suitable for replacement of older technology.

THPEAO30

INTRODUCING THE NEW FULLY-AUTOMATED VOLUMETRIC AQUOS FLOW CYTOMETER PANLEUCOCYTE PLATEFORM FOR CD4-T LYMPHOCYTE ENUMERATION IN SOUTH AFRICA. PART 1: ENSURING INSTRUMENT PRECISION AND ACCURACY

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Background: The new Aquios ‘load and go’ cytometer incorporates fully automated sample preparation/analysis with a small bench-top footprint and CD4 PanLeucocagoting protocol. The aim of the study was to establish the accuracy/preci

Methods: For 12 consecutive days, two Aquios instruments were evaluated with d

Results: Daily QC over 12 days showed NCV values of < 8% for CD4+ and CD8+ using ‘Normal’ or ‘Low’ immunostat. Reproducibility data with both levels of immunostat showed excellent precision with 95% limits of agreement of ± 7%. Reproducibility using patient CD4 counts >700 cells/µl (high) and 300-500 cells/µl (medium), showed excellent reproducibility with CVs< 5%. CD4 counts < 400 cells/µl showed increased CVs ~11%. Differences were not clinically significant. Inter-instrument variability was negligible, with corresponding %similarity of 100±2.85% (CV's < 3%), and a bias of 12.9±21 cells (95% limit of agreement -40.2 to 66.1) in a cohort with CD4 counts from 2-1582 cells/µl (median 424 cells/µl). Samples aged for 5 days (23-1001 cells/µl) showed no statistically significant changes over 4 days. EQA panel data revealed overall accuracy (SDI values >0 - +2) for low and normal panel samples for CD4 and CD8+ respectively.

Conclusions: Internal and external quality control assessment material and a range of CD4 counts (patient samples) confirmed accuracy and excellent reproducibility of the Aquios PLG system over time. Accuracy was not impaired by sample age and inter-instrument comparisons showed minimal bias, making the Aquios platform suitable for replacement of older technology.

THPEBO31

ACUTE HIV DISCOVERED DURING ROUTINE HIV SCREENING IN 6 URBAN EMERGENCY DEPARTMENTS (EDS)

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Background: Lab-based 4th generation HIV 1/2 Ag/Ab testing platforms in emergency departments (EDs) provide HIV test results in approximately 1 hour and can also detect acute HIV infection (AHI) 10-21 days after exposure, when patients are often symptomatic and seeking medical care.

Methods: We obtained HIV test results from patients undergoing routine HIV screening in 6 EDs since implementation of the fourth generation testing algorithm to determine the total number of HIV tests performed, the number of new HIV diagnoses and the number with AHI. AHI was defined based on a repeatedly reactive HIV Ag/Ab assay, negative HIV 1/2 antibody differentiation test, and detectable HIV RNA.

Results: The EDs initiated routine HIV screening at different time points between November 2012 and July 2015. Over 120 cumulative months of screening through November 30, 2015 in the 6 EDs, 154,389 HIV Ag/Ab tests were performed. There were 569 (0.37%) new HIV diagnoses, of which 80 (14.1%) were AHI. Prevalence of AHI amongst those screened was 0.05%. The percentage of new HIV diagnoses ranged from 0.31% to 0.47%, and the percentage of newly diagnosed HIV that were AHI ranged from 10.6% to 37.5% in the 6 EDs.

Author Index
Background: Early and acute maternal HIV infection increases risk of mother-to-child and heterosexual transmission due to high maternal HIV viral load (VL). While plasma VL is rapidly decreased with antiretroviral therapy (ART), ART response in the genital tract has not been well characterized among pregnant/postpartum women with recent HIV infection and could contribute to transmission.

Methods: Women with early or acute infection (detected by nucleic acid amplification tests on plasma samples conducted serially during pregnancy and postpartum) were identified in a prospective study in Western Kenya. Women initiating ART within 40 days of confirmatory HIV diagnosis and with ≥2 vaginal or ≥2 cervical samples collected were included in the analysis. Cox proportional hazards regression was used to determine time to HIV suppression, defined as ≤5 copies/mL for cervical/vaginal samples or <150 copies/mL for plasma samples, using the GenProbe HIV RNA assay.

Results: Among 23 women with early or acute infection who initiated ART, median age was 22 years (interquartile range [IQR]: 19-26) and the time to ART initiation was 14 days (IQR: 8-20). All women had detectable cervical and vaginal HIV at diagnosis. Mean plasma VL [5.44 log10 copies/mL] prior to ART initiation was >1 log higher than cervical and vaginal VL [4.13 and 3.90 log10 copies/mL, respectively; p < 0.001 for both]. Viral suppression was more frequent in the vagina (87%) than cervix (83%; p = 0.07) or plasma (65%; p = 0.06). Among women with viral suppression, median time to suppression was shorter in the cervix (2.5 months) than in the vagina (3.3 months) or plasma (7.8 months); there were no differences in time to viral suppression in any compartment between women who acquired HIV in pregnancy versus postpartum. Following viral suppression in the cervix or vagina, detection of virus at a subsequent visit was common: 48% cervical and 70% vaginal.

Conclusions: This is the first study to directly compare immune reconstitution between PHI and CHI ART in the same patients. Although no difference was observed in the dynamics of CD4+ count reconstitution, the CD4:CD8 ratio demonstrated faster restoration in the first 12 weeks of PHI ART compared to the CHI ART, which translated into a larger percentage of patients achieving the CD4:CD8 ratio of 1 by 48 weeks ART. Early initiation of ART conveys a significant immunological benefit to the patient.
Logical conditions.

began later during the course of infection, despite worst E-cART-g BL viro-immuno
optimal immunological recovery faster after therapy initiation than patients who
nological BL characteristics, first cART regimen and years of diagnosis.
tivariate analysis {aHR=1.99(1.09-3.63; 95%CI), p=0.026}, after adjusting for immu
logical conditions.

Using ddPCR to assess persistence of HIV DNA reservoirs in perinatally infected infants treated with cART before or after 12 months of age

Background: The major barrier to achieving HIV remission is the establishment of HIV in latent CD4+ T cells during acute infection. Recent studies suggest that early treatment of neonatal infection may reduce the establishment and quantity of latent reservoirs and enhance proviral decay, allowing potential drug-free HIV remission as seen in the “Mississippi baby.” Data is limited, so we measured persistent proviral reservoir levels.

Methods: In a retrospective study, 10 HIV perinatally infected infants followed from birth and initiating cART before or ≥ 12 months of age were divided into “early” or “late” treatment cohorts. All children remained on cART. Serial analysis of banked peripheral blood samples was assessed for HIV RNA viremia, HIV antibodies, and proviral reservoirs over time. We measured HIV RNA PCR "<4 months. Of those treated early, HIV antibody levels were assessed by 4th generation Western blot (WB) at 16 months and 1-5 years post-cART. We defined incomplete WB by band analysis (< 4 of 9 +). HIV DNA reservoirs were quantified by droplet digital PCR (ddPCR) at the same time points.

Results: Of infants treated early, 5/8 (62.5%) had incomplete WBs at 16 months of age; 6/8 (75%) remained incomplete at second time point. Half of early treated with incomplete WBs, also had marked decrease in HIV provirus. ddPCR was performed in 10 infants, 8 with early Rx and 2 with late Rx. At 16 months of age the early Rx cohort had a mean proviral DNA of 12,773 copies/million cells compared to 14,864 copies/million cells at 1-5 years later.

Conclusions: Preliminary data suggests that the majority of early treated infants showed incomplete antibody profiles by WB at 16 months which persisted in follow-up. The quantity of proviral reservoir was not significantly different among the early cohort. However, a subset showed a decrease in proviral reservoir size. This data confirms that early treatment may inhibit viral replication and development of HIV antibody. Further studies are needed to correlate HIV antibody profiles with proviral reservoir levels.

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HIV DIAGNOSTIC TESTING INCLUDING NEW ALGORITHMS, RAPID/POINT OF CARE TESTING, AND STRATEGIES FOR EXPANDING/IMPROVING TESTING

THPEB036
HIGH YIELD OF 4TH GENERATION ELISA TESTING FOR HIV IN DENUDABLE-LIKE FEBRILE ILLNESS IN SINGAPORE

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Background: Strategies to diagnose Acute HIV infection (AHI) are needed to improve individual and public health outcomes. As AHI causes a febrile illness in up to 85% of cases, routinely offering sensitive new-generation AHI tests to well-defined clinical populations could identify a high number of AHI cases. In Asia, 800,000 new HIV infections each year must be distinguished from other causes of fever, including over 2 million episodes of dengue fever (DF). We sought to estimate the prevalence of AHI in suspected DF patients using 4th generation Antigen-Antibody Enzyme-linked Immunosorbent assay (EIA) and Nucleic Acid Amplification Test (NAAT).

Methods: This cross-sectional study prospectively recruited febrile patients with clinical features of DF at three Singapore hospital clinics and acute medical wards. Eligible participants were Singaporean citizens, aged over 21 years, with a fever >37.5°C and two symptoms of DF (WHO, 2009). Patients were excluded if they were pregnant or had a clinically obvious diagnosis based on signs (e.g. varicella) or diagnostic tests performed prior to their presentation. We assessed risk of recent HIV exposure and collated clinical and laboratory data with a questionnaire. HIV-1 testing was by concurrent EIA and NAAT, and confirmed by quantitative viral load and western blot. Participants gave informed consent to participate in the study, which was approved by the National Healthcare Group Domain Specific Review Board.

Results: Of the 263 eligible participants, 140 consented to AHI testing (53.2% acceptance). Three of 140 participants had AHI, 2.14% (95% confidence interval (CI): 0.6% - 6.5%). The AHI cases had rash and blood count abnormalities typical of DF. Restricting HIV testing to those reporting sex in the last three months would limit testing to 56.4% of our cohort of suspect DF patients, and result in a slightly higher yield 2.7% (2.2 - 11.4%). The negative predictive value of a sexual history was 100% in our sample, but could be lower (95% CI: 94.1% - 100.0%).

Conclusions: We have shown routine AHI testing has a high yield in this population and is acceptable to many. Testing could be further targeted according to recent risk exposures.

THPEB035
USING DOPCR TO ASSESS PERSErvence of HIV DNA RESERVoIRS in PERINATALLY INFECTED INFANTS TREATED WITH CART Before OR AFTER 12 MONTHS of AGE

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Background: Conclusions: Preliminary data suggests that the majority of early treated infants showed incomplete antibody profiles by WB at 16 months which persisted in follow-up. The quantity of proviral reservoir was not significantly different among the early cohort. However, a subset showed a decrease in proviral reservoir size. This data confirms that early treatment may inhibit viral replication and development of HIV antibody. Further studies are needed to correlate HIV antibody profiles with proviral reservoir levels.

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Appropriateness of World Health Organization to detect and manage virologic failure for people living with HIV on antiretroviral therapy: results from an observational cohort study

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Background: World Health Organization HIV guidelines recommend viral load (VL) measurements annually after 6 months of antiretroviral therapy (ART). Regimen change is recommended for patients with two VL measurements >1,000, at least three months apart, with adherence reinforcement in the interim. These recommendations presume that 1) a VL < 1,000 is unlikely to predict persistent virologic failure, and 2) high adherence after an initial detectable VL is likely to result in virologic control. We assessed the appropriateness of these recommendations using data from a longitudinal cohort in southwestern Uganda.

Methods: Participants in the Ugandan AIDS Rural Treatment Outcome Study were followed quarterly after ART initiation with VL monitoring. ART adherence was monitored using electronic pill monitors. We analyzed episodes in which participants...
had 1) a detectable VL >400 6-12 months after ART initiation or after a prior suppressed VL; and 2) continued on the same ART regimen until the next VL measurement. We assessed relationships between initial VL result and re-suppression, and evaluated whether ART adherence in the interim predicted re-suppression.

Results: We identified 231 detectable VL events in 168 participants. 82% (102/124) of those with an initial VL <1,000 re-suppressed, but only 42% (43/103) re-suppressed if the initial VL was >1,000 (p<0.001). Average adherence in the interim predicted re-suppression for those with an initial VL <1,000 (P=0.002), but not for those with an initial VL >1,000 (P=0.628), interaction term P=0.013 (Figure 1).

Conclusions: Patients with a detectable VL <1,000 have a high probability of re-suppression, and interim levels of adherence correlate with odds of re-suppression. However, those with a VL >1,000 have a low probability of re-suppression, and odds of re-suppression is not associated with adherence, suggesting a high likelihood of drug resistance. WHO recommendations to delay regimen changes in those with a high VL should be reconsidered.

**THPEB038**

A CLUSTER-RANDOMIZED TWO-PERIOD CROSSOVER TRIAL ASSESSING NURSE-DRIVEN HIV SCREENING TARGETING KEY POPULATIONS IN FRENCH EMERGENCY DEPARTMENTS

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Background: In France, a country with HIV concentrated epidemic, the number of New HIV Diagnoses (NHIVD) continues to increase among key populations. Thus optimizing screening to reach individuals with undiagnosed infection is challenging. Physician-directed diagnostic testing is routinely performed in French Emergency Departments (ED). The feasibility and impact of combining nurse-driven targeted screening with physician current practice on the identification of NHIVD were evaluated.

Methods: A cluster-randomized, two-period crossover trial compared Nurse-driven Targeted screening+current practice (NT) to Current practice alone (C) in 8 ED in metropolitan Paris (see Figure). In NT periods, the questionnaire was offered to 17,727 individuals, out of which 2,818 were tested by nurses (64% men, 36% women), resulting in 13 NHIVD. Combined with 9 NHIVD among 97 physician-directed diagnostic tests, the total number of NHIVD in NT periods was 22 (22/74,161: 0.03%; 95% CI 0.02-0.05). In C periods, 92 individuals were tested, resulting in 6 NHIVD (6/74,166: 0.01%; 95% CI 0.00-0.02). Nurse-driven targeted screening combined with current practice increased the identification of NHIVD (relative risk 3.7; 95% IC 1.2-10.9).

Conclusions: Targeted screening by ED nurses added to current practice was feasible. This innovative strategy significantly enhanced the identification of new HIV diagnoses.

**THPEB039**

USE OF A LIMITING ANTEN S AVIDITY ASSAY TO MONITOR VIRAL BREAKTHROUGH DURING ANTIRETROVIRAL TREATMENT

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Background: HIV viral load testing is used to monitor antiretroviral treatment (ART). However, this testing requires special equipment, laboratory expertise, and is not affordable in many resource-limited settings. Simple and less expensive laboratory tests are needed to monitor ART in these settings. Previous studies have shown that viral suppression can down-regulate the anti-HIV antibody response, and that viral breakthrough during ART may be associated with serologic changes. We evaluated whether a limiting antigen avidity enzyme immunoassay (LAG-Avidity assay) could be used to detect viral breakthrough in individuals on ART.

Methods: Samples were obtained from adults in the United States who were infected with HIV for >2 years and on ART. On this included: (1) 72 samples from 18 adults with 1 sample before and 3-7 samples after ART initiation; and (2) 179 samples from 20 adults who were virally suppressed on ART and had viral breakthrough with subsequent viral suppression (22 viral breakthrough events). A cutoff of 400 copies/mL was used to define viral suppression. Samples were tested with the LAG-Avidity assay; results were reported as normalized optical density units (OD-n). We compared the difference in OD-n values between individuals who were or were not virally suppressed, and evaluated the change in OD-n values in longitudinally-paired samples, where individuals were suppressed at both time points (n=120), or at only one time point (n=22).

Results: LAG-avidity values were strongly correlated for a given individual; therefore, these data were only useful for analysis of longitudinal samples. Significant differences in OD-n values were observed more frequently for paired samples when viral
breakthrough occurred, then when individuals were suppressed at both time points (86% [16/22] vs. 68% [19/29], p<0.001, Fisher’s exact test). Using an increase of 0.2 OD in between paired time points as a cutoff, the sensitivity of detecting viral breakthrough was 65% (14/22) and specificity of detecting viral breakthrough was to 86% (17/20, p<0.001, Fisher’s exact test).

**Conclusions:** The LAg-avidity assay cannot identify individuals with viral breakthrough using a single sample due to intra-individual variation in OD-n values. When paired longitudinal samples were evaluated, viral breakthrough was identified in a majority of cases.

**Results:** A total of 144 samples were confirmed HIV seropositive, while 289 samples were confirmed HIV seronegative with the 2-test algorithm. The Trin-Screen HIV demonstrated 100% (144/144) sensitivity and 99.65% (288/289) specificity versus the 2 rapid test algorithm. Versus both other rapid tests (First Response HIV-1/2.0 and KHB HIV 1+2), the Trin-Screen HIV gave 100% (144/144) agreement for HIV seropositive samples and 99.65% (288/289) agreement for HIV seronegative samples.

**Conclusions:** The new Trin-Screen HIV rapid test demonstrates excellent sensitivity and specificity when compared to the 2-test algorithm for detection of HIV-1/2. Trin-Screen HIV is a viable alternative to the current 1 line HIV test assays in Africa.

**THPEB040**

**COMPARISON OF THE NEW SIEMENS VERSANT® HIV-1 RNA 1.5 ASSAY (KPCR) and VERSANT® HIV-1 RNA 1.0 ASSAY AND THE ABBOTT REALTIME HIV-1 ASSAYS ON CLINICAL SAMPLES FROM WEST AND CENTRAL AFRICA**

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**Background:** The high frequency of HIV-1 mutations is a known risk for viral load assays. Continuous surveillance of HIV sequence databases led to an update of the VERSANT® HIV-1 RNA 1.0 Assay (KPCR) -0.08 log10 copies/mL. The regression line slope was 0.95 and the R-squared value was 0.96. The majority of the discrepant results showed higher quantifications of CCR5/ CXCR4 with the VERSANT® HIV-1 RNA 1.5 Assay (KPCR). The average difference between the VERSANT® HIV-1 RNA 1.5 Assay (KPCR) and Abbott REALTIME HIV-1 Assay was -0.08 log10 copies/mL. The regression line slope was 0.95 and the R-squared value was 0.94. Among the 82 patient samples in which viral load levels were determined by both assays, 76 samples (93%) differed by less than 0.5 log10 copies/mL.

**Results:** All samples (85) were quantified by the VERSANT® HIV-1 RNA 1.5 Assay (KPCR) and a 1.0 Assay. The regression line slope for the log-log plot was 0.96 and the R-squared value was 0.96. The majority of the discrepant results showed higher quantifications of CCR5/ CXCR4 with the VERSANT® HIV-1 RNA 1.5 Assay (KPCR) and Abbott REALTIME HIV-1 Assay was -0.08 log10 copies/mL. The regression line slope was 0.95 and the R-squared value was 0.94. Among the 82 patient samples in which viral load levels were determined by both assays, 76 samples (93%) differed by less than 0.5 log10 copies/mL. The new VERSANT® HIV-1 RNA 1.5 Assay (KPCR) accurately detects samples of HIV infected patients from West and Central Africa, has good correlation with the VERSANT® HIV-1 RNA 1.0 Assay (KPCR), and shows overall higher quantitation with the VERSANT® HIV-1 RNA 1.0 Assay (KPCR). Performance of the new assay decreases when paired longitudinal samples were evaluated, viral breakthrough was identified in a majority of cases.

**Conclusions:** The new Trin-Screen HIV rapid test demonstrates excellent sensitivity and specificity when compared to the 2-test algorithm for detection of HIV-1/2. Trin-Screen HIV is a viable alternative to the current 1 line HIV test assays in Africa.

**THPEB041**

**EVALUATION OF TRIN-SCREEN HIV FROM TRINITY BIOTECH, A SCREENING RAPID TEST FOR THE DETECTION OF HUMAN HIV-1/2**

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**Background:** The objective of this study was to evaluate the performance (sensitivity and specificity) of the new Trin-Screen HIV rapid lateral-flow assay against a 2-test algorithm, 1st line and 2nd line, used as the reference standard (1st line: Alere Determine HIV-1/2, 2nd line confirmatory: Uni-Gold™ HIV). Performance was also compared to First Response HIV-1/2.0 and KHB HIV 1+2.

**Methods:** A total of 437 prospective EDTA whole blood samples were collected at two hospitals in the Republic of South Africa between October 2015 and January 2016. A total of 202 male, 225 female and 10 unidentified gender samples were collected from patients aged between 3 months to 89 years of age. The clinical status of the patients was defined using the 2 rapid test algorithm, Alere Determine™ HIV-1/2 as the 1st line screening assay and Uni-Gold™ HIV as the 2nd line confirmatory assay. If the screen and confirmatory assays conflicted, the HIV status for the sample was uncertain and excluded from the study. All products were used in accordance with their IFU procedure.

**Results:** A total of 144 samples were confirmed HIV seropositive, while 289 samples were confirmed HIV seronegative with the 2-test algorithm. The Trin-Screen HIV demonstrated 100% (144/144) sensitivity and 99.65% (288/289) specificity versus the 2 rapid test algorithm. Versus both other rapid tests (First Response HIV-1/2.0 and KHB HIV 1+2), the Trin-Screen HIV gave 100% (144/144) agreement for HIV seropositive samples and 99.65% (288/289) agreement for HIV seronegative samples. The Bissau HIV Cohort Study Group
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**Background:** It is important to discriminate between HIV types, as HIV-2 is intrinsically resistant to non-nucleoside reverse transcriptase inhibitors (NNRTIs), which is often used in first-line antiretroviral treatment (ART) regimens. However, correct discrimination may be difficult because of cross-reacting antibodies and because many HIV-2 infected patients do not have detectable HIV-2 RNA plasma levels. The performance of established discriminatory assays in populations harboring HIV-1, HIV-2 and HIV-1/2 dually infected patients is not well known. This study validates two of the most widely used discriminatory assays.

**Methods:** Samples from ART naive HIV infected patients from the Bissau HIV Cohort in Guinea-Bissau were selected for the study. The two tests INNO-LIA HIV-1/2 Score and Immunocombo HIV 12 Bispot were performed on all samples. HIV-1 and HIV-2 RNA was measured on plasma samples using Abbott m2000 system and an in-house method, respectively. To ease comparison, HIV positive (untypable) results by INNO-LIA were classified as HIV-1/2 dual infections.

**Results:** The median age of the 239 included patients was 36 years (IQR 29-45), and 73% were females. The median CD4 cell count was 245 cells/µL (IQR 140 - 464). INNO-LIA categorized samples as 122 HIV-1 positive, 69 HIV-2 positive and 48 HIV-1/2 dually infected. According to Immunocombo, 122 were HIV-1, 49 HIV-2 and 68 HIV-1/2 dually infected. There was disagreement in 22 samples, of which 20 were typed HIV-2 infected by INNO-LIA but HIV-1/2 dually infected by Immunocombo, as undetectable HIV-2 RNA levels. These results are in accordance with the HIV-2 typing called by INNO-LIA but not with dual infection as called by Immunocombo, as undetectable HIV-1 RNA in untreated dual infected patients is unlikely. In two other samples discordantly typed HIV-1 and HIV-1/2 dually infected, HIV-1 RNA was detected whereas HIV-2 RNA was not. Thus, final type determination could not be concluded.

**Conclusions:** Both assays have been used as gold standards for HIV type discrimination in several studies. However, Immunocombo overestimated the number of HIV-1/2 dually infected samples and HIV RNA measurements did not disprove any INNO-LIA results.
CD4 MEASUREMENT (INCLUDING POINT OF CARE DIAGNOSTICS)

THPEB043
ACCURATE AND PRECISE PERFORMANCE OF THE BD FACSVIA™ SYSTEM FOR DETERMINATION OF CD4 CELL COUNT AND %CD4 CELL CONCENTRATION

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Background: An accurate, precise determination of CD4 cell count and %CD4 cell concentration is essential for quality care of HIV-infected individuals. The BD FACSVia™ system,* a new, easy-to-use flow cytometer, designed for clinical settings such as reference and district hospitals, to maintain continuity of quality testing. It features a lightweight, compact design with fixed alignment and pre-optimized detector settings to simplify testing and reduce cost-of-operation. This abstract describes the analytical performance of this system tested against the BD FACSCalibur™ predicate cytometer.

Methods: A study compared the BD FACSVia system to BD FACSCalibur system results. Accuracy was evaluated by testing venipuncture samples from 104 HIV-infected individuals (Biocollections, Florida, USA) using BD Tritect™ CD3/4/45 with BD Trucount™ tubes for CD4 cell count and %CD4 cell concentration on both systems. Precision was evaluated in a 21-day study using commercially available CD4 controls and following CLSI EP5 A3 guidelines. Deming regression was used to compare the two methods.

Results: Deming regression for absolute CD4 cell count showed an R² of 0.98 and a slope of 0.97 (Figure 1).

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THPEB044
CD4 VARIABILITY IN MALAWI: IMPLICATIONS FOR CONTINUED USE OF A CD4 THRESHOLD OF 500 CELLS/MM³ VERSUS UNIVERSAL ELIGIBILITY FOR ANTIRETROVIRAL THERAPY

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Background: Despite WHO recommendations for universal antiretroviral therapy (ART), many resource-constrained countries may continue to use CD4 thresholds to determine eligibility. Given the uncertainty about the ability of a single CD4 count to accurately classify a patient as ART eligible, we sought to understand the extent to which CD4 variability results in misclassification at a CD4 threshold of 500 cells/mm³.

Methods: We performed a prospective study of CD4 variability in Malawian HIV-infected, ART-naive, WHO Stage 1 or 2, non-pregnant adults. CD4 counts were performed daily for 8 consecutive days. We fit a Bayesian linear mixed effects model of log-transformed CD4 cell counts to the data. Using samples from the posterior distribution, we employed Monte Carlo approximations to estimate misclassification rates for different observed values of CD4 based on different numbers of repeated measurements. The misclassification rate was defined as the conditional probability of the true CD4 being below 500 cells/mm³ given a geometric mean of N measurements being above 500 cells/mm³.

Results: Fifty patients were enrolled from two sites yielding 387 samples. The median age was 33.5 years (IQR 27.5, 40.0) and 34 (68%) were female. Misclassification rates were < 1% when the observed CD4 counts were ≤250 cells/mm³ or ≥750 cells/mm³. Rates of misclassification were high at observed CD4 counts between 350-650 cells/mm³, particularly when a single measurement was used (up to 46.7%). Repeated CD4 measures resulted in decreases in misclassification rates with the largest benefit observed at CD4 counts of 350-650 cells/mm³.

Conclusions: Our data show that ART eligibility based on a single CD4 count results in highest risk of misclassification when CD4 counts are in the range of 350-650 cells/mm³. Given the benefits of early ART, countries should weigh the costs and complexity of CD4 testing using a 500 cell/mm³ threshold against the cost savings and public health benefits of universal eligibility.

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THPEB045
IMPLEMENTATION AND VALIDATION OF PIMA CD4 PROGRAM IN UKRAINE

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Background: To scale up PWIDs’ linkage to care, the PIMA point-of-care (POC) CD4 testing has been implemented within the framework of the GFATM program in Ukraine and the Cooperative Agreement between the USCDC and the ASM funded

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HIV RNA and HIV DNA assays (including point of care platforms)

THPEB046

Incorporating Access to Routine Viral Load with Nearly Point-of-Care SAMBA-1: Outcomes from a Decentralized HIV Program in Malawi


Background: Viral load (VL) testing is key for timely provision of intensive adherence counselling or switching treatment regimen of suspect failures. From August 2013, Médecins sans frontières implemented gradually in 4 decentralised sites and 1 hospital of Chiradzulu district (Malawi) the semi-quantitative (1000 copies threshold) VL test with SAMBA-1, a nearly point-of-care (POC) system. The protocol recommends 2 follow-up tests after a high VL before a change in ART regimen for those remaining high. The objective is to review the VL cascade and identify challenges with VL monitoring.

Methods: We describe sequence of VL tests performed between August 2013 and December 2015 in five ART-treatment sites on first line ART-patients with at least 1 VL test performed 1 year after the first high VL.

Results: Over the study period, 13,675 patients had a VL test, among which 1,611 (11.8%) had a high VL. VL coverage ranged from 60 to 81% depending on POC implementation. Among patients with high VL, 1,146 (71.1%) had follow-up tests. Median time between tests was 3.2 months (IQR 2.8-4.6) and clinical review was same day for over 80% of tests in decentralised sites. Among the 1,146, 354 (30.9%) suppressed at 2nd test and 94 suppressed at 3rd test giving an overall suppression of 39.1% and a marginal gain of 11.3%. A total of 381 patients remained with high VL at 3rd test and 259 (68.0%) were switched to 2nd line regimen in a median time of 1.0 month (IQR 0-3). Second VL test was missing for 465 patients and third one for 317. Among these, over 80% were still followed on 31/12/2015.

Conclusions: Good treatment adherence and VL coverage were observed. Use of POC VL demonstrated short turn-around time for clinical review. However VL follow-up of suspect failures remains a major challenge. Further the VL algorithm of 3 tests showed minimal gain in virological suppression whilst a large number of patients remained on a potentially failing regimen. One follow-up test at 3 months after high VL seems sufficient to confirm treatment failure. This will simplify the process and may lead to improvement in VL test monitoring and HIV treatment outcomes.

Drug Resistance Testing

THPEB047

GAG-PR INTERPLAY AND HIV-1 PI RESISTANCE IN THE SWISS HIV COHORT

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Background: HIV resistance against protease inhibitors (PIs) is typically characterized by the accumulation of mutations in the viral protease (PR). However, the Gag polyprotein, natural substrate of PR, interacts intricately with PR, also on the way of selecting for therapy resistance. Since current genotyping algorithms generally analyze only the PR gene itself to predict the degree of PI resistance, we set out to investigate the role of Gag in PI resistance by assessing the mutational patterns observed in Gag-PR under antiretroviral therapy.

Methods: Data sets were collected from routine diagnostics of 369 PI treatment-experienced (PI-TE) and 521 PI treatment-naive patients infected with subtype B HIV-1 at the cohort enters in Basel and Zurich. Each set included Gag C-terminal sequences (up to 140 AA), along with protease sequences and treatment history. Fisher’s exact test with significance level alpha=0.05 was used for linking PI treatment changes to Gag. Pairwise associations between selected mutations were identified in PI-TE samples.

Results: We assessed the prevalence of 49 Gag mutations that have previously been reported to associate with PI-exposure or -resistance: Among the PI-TE samples 82.4% carried ≥1 such Gag mutations. 17.9% of all PI-TE samples had mutations in Gag that had been experimentally proven to decrease PI susceptibility either alone or in combination with PR resistances. We also report novel associations of A380S/P (OR=6.3), Q476L/K (OR=5.5), T472D/N (OR=2.9), E467V/K (OR=4.8) to PI exposure, and specifically of T472D/N to LPV exposure. How accurate is the WHO viral load-based first-line ART failure determination algorithm? Evidence from Southern Swaziland

THPEB048

How accurate is the WHO viral load-based first-line ART failure determination algorithm? Evidence from Southern Swaziland

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Methods: From 08/2013 to 10/2014, dried blood spot (DBS) samples from patients (aged ≥18 years) on ART and with VF were genotyped using ATCC kits at the resistance testing laboratory at CDC, Atlanta and , DR mutations were interpreted with the Stanford HIVdb algorithm. We combined all levels of DR against first-line
ART (lamivudine/3TC) with zidovudine (AZT)/tenofovir (TDF) and nevirapine (NVP)/ efavirenz (EFV) and the second-line drug lopinavir/ritonavir (LPV/r), and evaluated the positive predictive value (PPV) of the WHO VL algorithm to accurately identify patients with DR requiring treatment switching.

Results: Overall, 135 DBS samples were successfully genotyped and 123 (92.6%) were females. Fifty nine (43.7%) were on AZT/3TC/NVP, 23 (17.0%) on AZT/3TC/EFV, 12 (9.6%) on TDF/3TC/NVP and 40 (29.6%) on TDF/3TC/EFV. AZT resistance in the four regimens ranged from 17.5 - 74.6% (p<0.001), 3TC from 85.0 - 93.2% (p=0.569), TDF from 47.8 - 77.5% (p=0.007) and for NVP and EFV combined from 87.5 - 94.9% (p=0.623). Of the 53 patients receiving TDF, 12 (22.6%) showed resistance against AZT and none against LPV/r. Of the 82 patients receiving AZT, 40 (48.8%) had resistance against TDF and one (1.2%) against LPV/r. The overall PPV was 91.9% and ranged from 87.5% (p=0.0586) for TDF/3TC/EFV to 94.9% (p=0.6477) for AZT/3TC/NVP.

Conclusions: This study demonstrated high accuracy of the WHO VL switching algorithm in predicting HIVDR to the current first-line ART regimens. In our setting following a public health approach, most patients failing their first-line regimens may not require DR testing for diagnosis and confirmation of virologic treatment failure.

THPEB049
A POINT MUTATION RESISTANCE ASSAY TO OPTIMIZE HIV-1 SUBTYPE C ANTIRETROVIRAL THERAPY IN INDIA

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Background: HIV guidelines recommend tenofovir in first/second line therapy. Upon failure, regimens may be optimized by genotyping. Conventional genotyping (Sanger) is expensive and typically unavailable for care in India and other resource-limited settings, where nucleos(t)ides combinations for new regimens are limited. Point mutation assays can be subtype-region-specific due to genomic variability. We evaluated whether a simple, lower-cost point mutation assay for tenofovir-associated K65R mutation can help optimize regimens and identify patients who may benefit from zidovudine addition.

Methods: At YRG-CARE, Chennai, India, we developed an allele specific PCR (ASPCR) point mutation assay for K65R, tested it in RNA and DNA from drug naïve and tenofovir-treated, HIV-infected, YRG-CARE patients, and compared results to Sanger sequencing, to evaluate its detection as a minority variant (>5%). Resistance interpretations were with Stanford Database tools.

Results: Participants included 83 adults (≥18 years); 37 drug naïve (64% female; median age 26 years; viral load 62,053 copies/mL) and 46 on tenofovir-based 2nd-line (n=26) or 2nd-line (n=20) regimens (54% female; median age 38 years; viral load 102,920 copies/mL). All sequences were subtype C. K65R was not detected among naïve by Sanger, while of 46 patients failing tenofovir, 96% and 89% had reverse transcriptase drug resistance, 85% and 67% dual-class, and 26% and 17% had K65R in RNA and DNA, respectively (Table). ASPCR detected >5% K65R in 1/37 (3%) RNA and DNA naives, and 20% of RNA (those detected by Sanger and additional 2) and 26% DNA (those detected by Sanger and additional 8) treated. Of 14 patients with high-level predicted resistance to tenofovir in RNA and 8 in DNA by Sanger,12 (86%) and 8 (100%) were identified by ASPCR.

Conclusions: An ASPCR point mutation assay may provide a simple, lower cost approach in resource limited settings, to identify K65R and tenofovir resistance. In those patients with evidence of K65R, zidovudine may be added in the next regimen for additional activity. The significance of K65R minority variant detection >5% by ASPCR (below the Sanger >20% threshold) remains to be determined.

THPEB050
VERY LOW PREVALENCE OF PRIMARY RESISTANCE MUTATIONS TO INTEGRASE INHIBITORS AMONG PATIENTS INFECTED WITH HIV-1 IN A SINGLE CENTRE (NORTHERN ITALY)

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1San Gerardo Hospital, University of Milano-Bicocca, Infectious Diseases Unit, Monza, Italy
2San Gerardo Hospital, Virology Unit, Monza, Italy

Background: Genotypic resistance testing (GRT) for integrase strand inhibitor (INSTI) is not currently recommended before antiretroviral therapy (ART) initiation, due to low prevalence of primary resistance. Nonetheless, increase in INSTI use suggests that continuous surveillance is advisable.

Methods: All consecutive HIV-infected patients naïve to ART, undergoing GRT between January 2012 and May 2015 in Monza (Italy), were evaluated for the presence of INSTI resistance mutations. Mutations in the integrase region were assessed using a commercially available kit (Trugene OpenGene, SIEMENS). Antiretroviral resistance was estimated using the Stanford HIV drug resistance database. HIV subtype was assigned based on pol gene sequences.

Results: One hundred-eighty-two naïve patients were included (82% male, mean age 46y [SD:31.8y], 35% MSM, 71% subtype-B). Among non-B subtypes, the most prevalent were CRF02_AG (10%) and C (6%). Major INSTI resistance mutations were detected in only one patient, whose virus harboured S147G and the accessory mutation H51Y. Other accessory mutations (H51Y, T97A, V151I, E157Q) were found in 10 additional patients. Moreover, the following amino acid substitutions, not previously associated with exposure or reduced susceptibility to INSTI, were found: N67S, Q74L, Q145E, and Q148H.

Conclusions: Type was assigned basing on the different predicted susceptibility to INSTI, were found: N67S, Q74L, Q145E, and Q148H.

Patient Subtype Major Mutations Accessory Mutations Substitutions in relevant positions RAL DTG EVG
Pt 1 B S147G H51Y G163E High-level resistance Low-level resistance Low-level resistance Low-level resistance
Pt 2 B - T97A - Low-level resistance Low-level resistance Low-level resistance
Pt 3 B - E157Q - Low-level resistance Low-level resistance Low-level resistance
Pt 4 B - V151I - Susceptible Susceptible Susceptible Susceptible
Pt 5 B - E157Q L74I Low-level resistance Low-level resistance Low-level resistance
Pt 6 B - E157Q - Low-level resistance Low-level resistance Low-level resistance
Pt 7 B - H51Y - Low-level resistance Low-level resistance Low-level resistance
Pt 8 G - T97A L74I Low-level resistance Low-level resistance Low-level resistance
Pt 9 B - V151I L74I Susceptible Susceptible Susceptible Susceptible
Pt 10 G - E157Q L74I G163E Low-level resistance Low-level resistance Low-level resistance
Pt 11 CRF02_AG - T97A - Potential resistance Potential resistance Potential resistance

(Mutational pattern and predicted susceptibility to integrase inhibitors of viruses harbouring major or accessory mutations in the integrase region)

THPEB050

Tuesday 19 July
Wednesday 20 July
Thursday 21 July Poster Exhibition

Late Breaker Posters
Author Index
Background: ABX464 is a first-in-class antiviral drug candidate for the treatment of patients with HIV-infection. It is an orally available small molecule that blocks HIV replication through an entirely novel mechanism, inhibition of Rev activity. Preclinical data in humanized mice showed that ABX 464 monotherapy had an antiviral effect which was sustained after treatment interruption (Campos et al, Retrovirology 2015 12:30) A prior food-effect study demonstrated a 3-fold increase in parent drug exposure when administered with food without a significant impact on the active glucuronide metabolite.

Methods: The objective of this study was to evaluate the safety of ABX-464 at ascending doses versus placebo in HIV-infected treatment-naive patients. Patients were randomized into successive cohorts of 8 patients where 6 received 14- or 21-day administrations of ABX-464 and 2 placebo. Patients from Mauritius and Thailand were included in the study after confirmation of HIV infection and no history of prior antiretroviral therapy. At day 0, patients received the first dose of ABX-464/ placebo in a once daily schedule. Safety assessments and laboratory parameters were recorded throughout the study. After completion of each cohort, a DSMB reviewed safety data and recommended whether the next cohort be initiated at a higher dose. Successful cohorts received 25, 50, 75, 100 and 150 mg QD. The 25, 50, and 100 mg cohorts orally administered drug fasting for 21 days, the 75 and 150 mg cohorts took drug with food for 14 days.

Results: Safety and Tolerability: No grade 3 or 4 events were noted. No patient stopped the study due to adverse events and all patients completed at least 14 days of treatment. Viral load reduction was observed in 3/12 patients in the 75 and 100 mg cohorts and 4/16 in 150 mg cohort; there were no significant viral load changes in the 6 placebo patients from these cohorts.

Conclusions: ABX 464 was well tolerated in this first study in HIV-infected patients. ABX 464 monotherapy showed early antiviral activity in HIV-infected treatment-naive patients. These results warrant the further planned development of this novel antiretroviral drug.

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THP0504
THE ROLE OF PLASMA HIV RNA AND T CELL SUBSET COUNTS/PERCENT AND RATIO IN EXPLAINING THE BENEFIT OF IMMEDIATE ANTIRETROVIRAL THERAPY (ART) INITIATION IN HIV+ INDIVIDUALS WITH HIGH CD4+ COUNTS


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Background: The START study demonstrated a 5% risk reduction in serious AIDS, serious non-AIDS events or death (primary endpoint) with immediate versus deferred ART. Most events occurred at CD4+ counts >500 cells/mm³. We investigated the extent to which treatment differences in CD4+, CD8+ and plasma HIV RNA (VL) explained the clinical benefit of immediate ART.

Methods: ART-naïve HIV+ participants with CD4+ >500 cells/mm³ were randomised to immediate (n=2326) or deferred ART (n=2359) with assessments every 4 months for CD4+, CD8+ counts, percent, and VL. We estimated average biomarker levels using longitudinal mixed models, and hazard ratios (HR, Immediate/Deferred ART) using Cox models with and without adjustment for most recent (latest) biomarker levels.

Results: Over mean follow-up of 3 years, 138 participants experienced primary events. Average levels of CD4+, CD8+ and VL were 194 cells/mm³ higher, 189 cells/mm³ lower, and 1.2 log₁₀ copies/mL lower, respectively, with immediate compared to deferred ART. Latest CD4+ count was modestly associated with the primary endpoint in the deferred arm (HR=0.87 per 100 cells higher; 95% CI: (0.79, 0.97), p=0.01) but not in the immediate arm (HR=0.98 (0.88, 1.11) p=0.78). In contrast, higher VL, higher CD8+, CD8% and lower CD4+/CD8+ ratio were strong predictors of the primary endpoint regardless of treatment group. The association with CD8+ count and CD4+/CD8+ ratio remained strong after adjusting for VL (data not shown).

As shown in the table, treatment differences in CD4%, CD8%, or CD4+/CD8+ ratio explained by treatment differences in laboratory markers mostly by the reduction in VL and, to a lesser extent, by increase in log CD4/CD8 ratio. As shown in the table, treatment differences in laboratory markers mostly by the reduction in VL and, to a lesser extent, by increase in log CD4/CD8 ratio.

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>HR (Immediate-Deferred ART) after adjustment for latest biomarker levels</th>
<th>Proportion of treatment effect explained (PETPE)</th>
<th>Estimate (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No adjustment</td>
<td>0.43 (0.36, 0.51)</td>
<td>0.01 -</td>
<td>0.43 (0.36, 0.51)</td>
</tr>
<tr>
<td>CD4+ cell count</td>
<td>0.52 (0.43, 0.61)</td>
<td>0.15 (0.06, 0.42)</td>
<td></td>
</tr>
<tr>
<td>CD4+ percent</td>
<td>0.68 (0.64, 0.72)</td>
<td>0.014 (0.06, 0.32)</td>
<td></td>
</tr>
<tr>
<td>CD8+ cell count</td>
<td>0.55 (0.48, 0.62)</td>
<td>0.012 (0.05, 0.27)</td>
<td></td>
</tr>
<tr>
<td>CD8+ percent</td>
<td>0.62 (0.42, 0.82)</td>
<td>0.016 (0.03, 0.41)</td>
<td></td>
</tr>
<tr>
<td>Log CD4+/CD8+ ratio</td>
<td>0.69 (0.40, 0.98)</td>
<td>0.005 (0.03, 0.32)</td>
<td></td>
</tr>
<tr>
<td>Log HIV RNA</td>
<td>0.65 (0.50, 0.85)</td>
<td>0.15 (0.06, 0.32)</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions: In this population, latest CD8+ cell count and percent and CD4+/CD8+ ratio are better predictors of clinical outcome than latest CD4+ count. The reduction in incidence of the primary endpoint conferred by Immediate ART could be explained mostly by the reduction in VL and, to a lesser extent, by increase in log CD4/CD8 ratio.

THP0505
TREATMENT INITIATION AT HIGHER CD4+: CHALLENGES TO HIV IN FOUR AFRICAN COUNTRIES

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Background: Immediate initiation of antiretroviral therapy (ART), regardless of CD4 count, and routine monitoring of viral load (VL) improve clinical outcomes among HIV-infected individuals but can be difficult to implement in resource-limited settings. Evaluating the effectiveness of current mechanisms for ART initiation and VL monitoring can inform new strategies to facilitate best practices in resource-limited settings.

Methods: The African Cohort Study prospectively enrolls adults at 11 PEPFAR-supported facilities in Uganda, Kenya, Tanzania, and Nigeria. HIV management history and laboratory assessments were obtained at entry and every 6 months. We categorized participants into 3 groups by first available CD4: low (<350 cells/mm³), middle (351-500) and high (>500). Viral suppression (VS) was defined as VL <50 copies/mL. We evaluated demographics, incident illnesses, time from entry into HIV care to ART eligibility, and rates of VS at most recent visit using t-tests, Chi-squared tests, ANOVA and negative binomial regression to compare CD4 groups.

Results: Between January 2013 and September 2015, we enrolled 1732 HIV-infected adults (59% female) with a mean age of 39 years (SD 10). The low CD4 group included 62% of participants, middle 16%, and high 22%. Among those with a low CD4, 87% were WHO stage IV. Febrile illnesses were common (7.0/100 person-years [PY] in the low CD4 group, 15.2/100PY in the middle, 12.6/100PY in the high; p=0.61). All-cause hospitalizations were also common (8.1/100PY, 5.8/100PY, 1.0/100PY in the low, middle and high; p=0.63). Time from entry into care to ART eligibility varied by CD4 group with the low group having a mean (SD) of 0.21yrs (0.7), the middle 1.3yrs (1.7) and the high 2.2yrs (2.2) (p=0.001). Rates of VS in those on ART were similar across CD4 groups with 74% in the low group, 80% in the middle and 80% in the high (p=0.057).

Conclusions: Despite expanded testing, enrollment into HIV care with advanced disease is common and delays in ART initiation exist. Once on ART, participants in our cohort achieve VS regardless of CD4 strata and differences in clinical events are not observed. Interventions are needed to engage HIV-infected individuals in care and initiate ART before CD4 declines are observed.

THP0506
IMMEDIATE HIV TREATMENT REDUCES MORTALITY AND IMPROVES LONG-TERM IMMUNE HEALTH: CAUSAL EVIDENCE ON THE REAL-WORLD IMPACT OF IMMEDIATE VERSUS DEFERRED ART IN RURAL SOUTH AFRICA

J. Bor1, C. Oldenburg1, E. Moscoe2, F. Tanser3,5, T. Mutevedzi4, D. Pillay4,6, T. Bärnighausen3,4, B. Keshinro4, F. Kiweewa5, J. Maswai6, J. Owuoth7, J. Ake1, RV329 AFRICOS Study Group, 1Boston University School of Public Health, Global Health, Boston, United States, 2Health and Population, Boston, United States, 3Harvard T.H. Chan School of Public Health, Department of Epidemiology, Boston, United States, 4Harvard T.H. Chan School of Public Health, Department of Global Health and Population, Boston, United States, 5Africa Centre for Population Health, Mtubatuba, South Africa, 6University of KwaZulu-Natal, Durban, South Africa, 7University College London, London, United Kingdom

Presenting author email: cbor24@ gmail.edu

Background: Immediate initiation of antiretroviral therapy (ART) improves clinical outcomes and reduces mortality in randomized controlled trials. However, the effect of immediate ART under real-life conditions, where patients may have reduced adherence and retention in care compared to trials, is not well characterized. We present results from a large population-based longitudinal cohort in KwaZulu-Natal, South Africa, to investigate the effect of immediate ART initiation on all-cause mortality. We use a quasi-experimental regression discontinuity design that enables estimation of causal effects even in the presence of confounding.

Methods: All patients seeking care at the Hlabisa HIV Treatment and Care Programme between January 2007 and August 2011 with CD4 counts up to 350 cells/µl were included in the analysis (N=4345). Patients were followed until December 2014. A
regression discontinuity design was used to assess the intention-to-treat (ITT) effect of immediate versus deferred ART eligibility on all-cause mortality, HIV-related and HIV-unrelated mortality, and immune health (CD4 count). Exploiting the threshold rule for ART initiation (CD4< 200 cells/µl until August 2011), we used Cox proportional hazards models to compare survival for patients just above versus just below the threshold and mixed effects regression models to assess immune health.

**Results:** Among 4,435 index patients, 69.2% were female, 30.8% male, mean age was 33.9 years, and 2,751 (62.0%) were eligible for ART at presentation (CD4 count < 200 cells/µl). There were 935 deaths among the 4,435 individuals over 19,282 person-years of follow-up (incidence rate 4.8 deaths per 100 person-years, 95% CI 4.5 to 5.2). Immediate eligibility for treatment resulted in a 33% decrease in all-cause mortality mortality (HR=0.67, 95% CI 0.48-0.93). Effects were driven entirely by reductions in HIV-related mortality. Immediate eligibility led to a 75-cell advantage in CD4 counts, which persisted at five years.

**Conclusions:** We demonstrate large reductions in mortality and long-run gains in immune health in a population-based cohort study with immediate eligibility for ART. Previous clinical trials in sub-Saharan Africa have not been powered to detect an effect of immediate ART initiation on mortality. These results provide support for scaling up immediate ART in sub-Saharan Africa.

**THPEB057 UPTAKE AND IMPLEMENTATION OF THE WHO 2015 CONSOLIDATED ARV GUIDELINES: PROGRESS TOWARDS TREAT ALL**

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1World Health Organization, Geneva, Switzerland, 2World Health Organization, Geneva, Switzerland, 3World Health Organization, Braszaville, Congo, Republic of the, 4World Health Organization, Delhi, India
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**Background:** Progress towards the ending the AIDS epidemic by 2030 depends on adoption and implementation of global guidelines to optimally treat all people living with HIV. With the 2015 Consolidated ARV Guidelines, WHO successfully updated and launched new policy recommendations on the clinical and service delivery aspects of HIV treatment and care, and raised the bar to all PLHIV.

**Methods:** WHO operates a country intelligence monitor to better follow policy trends at country level. Data from country surveys, MoH HIV focal points, and Global AIDS Response Progress Reporting (GARPr) have been triangulated and validated for trends at country level. Data from country surveys, MoH HIV focal points, and Global AIDS Response Progress Reporting (GARPr) have been triangulated and validated for trends at country level.

**Results:** Data are presented for 144 LMIC and 20 fast track countries, respectively. 54% of all LMIC and 80% of fast track countries adopted a CD4 count threshold of ≤500 cells/µm3, while 7% and 10% have moved to a treat all policy regardless of CD4 cell count. Adoption and implementation of treatment eligibility varied by WHO region (Figure 1).

**Conclusions:** There is broad support for universal treatment across all fast track countries and many are committed to adopting “Treat All” policies; challenges to full implementation remain. Differentiated service delivery models are key to improving efficiency while maintaining quality as programs expand.

**THPEB058 SAFETY AND TOLERABILITY OF TENOFOVIR-CONTAINING ANTIRETROVIRAL THERAPY IN WOMEN WHO ACQUIRED HIV IN TWO TENOFOVIR GEL TRIALS**

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**Background:** We assessed whether women who acquired HIV while receiving tenofovir gel pre-exposure prophylaxis can be safely treated with tenofovir-containing antiretroviral therapy (ART).

**Methods:** Between May 2011 and October 2014, women who acquired HIV from two tenofovir gel trials (CAPRISA 004 and CAPRISA 008 studies) were recruited for participation in the CAPRISA 009 study when eligible for ART (CD4 count < 350 cells/µl, pregnancy or AIDS-defining illness). Women were randomised to tenofovir-containing (tenofovir, lamivudine/emtricitabine, efavirenz) or tenofovir-sparing (zidovudine, lamivudine/emtricitabine, efavirenz) antiretroviral treatment regimens. The proportion with adverse events were compared.

**Results:** Fifty-nine women, median age 28 [Interquartile range (IQR) 25-31], were enrolled and followed-up for median 18 months (IQR 6-24). Twenty-nine women (7 tenofovir gel exposed) were randomized to a tenofovir-containing and 30 (9 tenofovir gel exposed) to a tenofovir-sparing regimen. Twenty-two (37%) women, 6 with prior tenofovir gel exposure, experienced at least one grade 3 or 4 adverse event. Of the 37 adverse events reported, 24 (65%) occurred in women receiving a tenofovir-sparing regimen with 11 (46%) being possibly or probably related to study-initiated ART in this arm (3 efavirenz-related, 6 zidovudine-related, 2 other drugs). Three of the zidovudine-related adverse events were related to bone marrow suppression, requiring hospitalisation in two cases. A total of 15 drug switches were required in 11 women; all on the tenofovir-sparing regimen (p< 0.001). There were 12 drug switches related to drug toxicities; 7 zidovudine-related toxicities (4 haematological, 2 metabolic, and 1 sleep disturbance), 3 efavirenz-related psychiatric toxicities and 2 general metabolic toxicities. Of the remaining 3 women with drug switches, 2 were due to poor compliance to the twice daily zidovudine regimen, and one was due to pregnancy. One death occurred in each arm, one suicide and one cardiac arrest, cause unknown.

**Conclusions:** These data show that tenofovir-containing ART was more tolerable in women who acquired HIV in tenofovir gel trials. Adverse events and drug switches for toxicity were frequent on the tenofovir-sparing regimen and close clinical monitoring is indicated in young women receiving this regimen.
**Methods:** This is a secondary analysis of ACTG A5230 trial in which HIV-infected adults from India, Malawi, Tanzania, Thailand and South Africa, with virologic relapse on first line therapy were initiated on lopinavir/ritonavir (LPV/r) monotherapy. Hyperlipidemia was, a Grade 2+ elevated total cholesterol (FTC<240 mg/dl) or fasting triglycerides (FTG<500 mg/dl) or calculated low density lipoprotein cholesterol (LDL<160 mg/dl) based on measurements at weeks 12, 24, 48, 68 and 104. We evaluated factors potentially associated with quantitative lipid changes from baseline to week 12. These were age, sex, race, site, and baseline body mass index, CD4 cell count, HIV-1 RNA level, and lipids.

**Results:** 106 participants without hyperlipidemia at baseline started LPV/r; median age 39 years, 68% black African, 55% female. The cumulative incidence of hyperlipidemia at week 104 was 48% (95% CI: 36-58%). At week 12, there were significant mean increases from baseline in FTC (17 mg/dL, P=0.001) and FTG (104 mg/dL, P=0.001). In multivariable analysis, higher baseline FTC (P=0.044), FTG (P=0.025), Thai (P=0.001) or Indian sites (P=0.020) versus African sites were associated with increased risk of hyperlipidemia.

**Conclusions:** In HIV-infected adults in RLS initiating LPV/r, hyperlipidemia was common. Baseline lipid measurements and routine monitoring should be recommended in individuals starting LPV/r-based treatments with borderline high lipids.

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**THPEB060**

**SECOND LINE ART - ESTIMATED NEED VS ACTUAL INITIATIONS - GAP ANALYSIS**

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**Background:** Free ART programme in India was rolled out in 2004 and currently over 9.20 lakh PLHIV receive ART at 520 ART centers. The Second line ART was introduced in 2008 at 10 Centers of Excellence and is currently initiated from 72 ART plus centers. The PLHIV with suspected treatment failure are evaluated by an expert panel at these centers and are initiated on second line ART if Viral load>1000 copies/ml. It is estimated from available literature that 3% of patients on first line need second line after 5 years on firstline ART. However programme data show that actual need is much less than the estimated numbers (36,900-3% of PLHA initiated first line ART, March 2015). A crude data analysis was undertaken to understand this gap.

**Methods:** An excel based format was circulated to 15 ART centers across 5 States to capture the baseline and serial CD4 of PLHIV receiving first line ART for more than 3 years. The ART centers were asked to randomly select 90-100 patients and provide these details. Data of 1,495 patients was collected and serial CD4 counts were analyzed for WHO immunological failure criteria.

**Results:** Out of 1495 PLHIV, around 22.4% had one or more of criteria of immunological failure after data cleaning. Among these 8% had CD4 below baseline, 18% had more than 50% fall from peak value while 1% persistently had CD4 below 100/mm3. Nearly 4% of suspected immunological failure cases had multiple failing criteria.

**Conclusions:** This study provides a rough estimate of suspected failure and these PLHIV need to be assessed for adherence level, existing OIs and any CD4 VL discordance for confirming failure to first line. Nevertheless it indicates need for second line ART could be much higher than those currently receiving second line ART. There is need to build the capacity of human resource at ART center for timely identification of immunological failure and referral; expand number of sites for second line ART could be much higher than those currently receiving second line ART. There is need to build the capacity of human resource at ART center for timely identification of immunological failure and referral; expand number of sites for second line ART could be much higher than those currently receiving second line ART.

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**THPEB061**

**ROLE OF EVG/COBI/FTC/TDF (QUAD) PLUS DARUNAVIR REGIMEN IN CLINICAL PRACTICE**


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**Background:** Patients with prior failures, currently in complex suppressive ART, usually claim for an easier regimen. A combination of EVG/COBI/FTC/TDF (Quad) plus darunavir (DRV) 800 mg gives the opportunity of reducing significantly the number of pills while maintaining similar antiretroviral activity. Our objective is to assess the short term safety, efficacy of QUAD plus DRV and DRV levels.

**Methods:** First Quad plus DRV-treated subjects in our clinic were retrospectively selected since July 2014. Baseline and companion follow-up of each patient were entered into a database. Demographics, baseline CD4 cell count and viral load, reasons for new regimen use, change/end of QUAD plus DRV use and darunavir plasma levels while taking new regimen at least one month after initiating it was assessed. Paired analysis were explored.

**Results:** We included 20 participants, 47.9 years old, 75% men, 45% prior IDU, 66.7% AIDS stage, and 45% HVC co-infected. Median baseline and nadir CD4+ cell count were 539 and 122 cells/mm3, respectively. Median length of prior ART was 186 months with exposure to a median of 3.75 drug families. Six HIV strains (30%) presented darunavir-specific mutations (66% L33F and 33% I54L). Main reasons for prescribing new regimen were: simplification 55%, treatment intensification 20%, naïve to ART and transmitted mutations 13.3%, and prior toxicity 6.7%. Only one (6%) was a treatment-naïve patient. 80% had HIV RNA level below 100 copies/ml. 30% of patients changed study therapy due to toxicity: 5 patients showed creatinine clearance worsening (4 ml/min mean decrease) and another patient suffered from arthralgia. Daily number of pills decreased from 4.6 (SD 1.6) to 2. No significant changes were observed in lipid, hepatic, kidney profiles and CD4+ cell count after a median follow up of 10 months (4 months SD). 88% (11/17) of the patients with follow-up viral load data showed HIV-RNA below 50 copies/ml at week 24. Median darunavir concentrations were 4349 ± 3808 ng/ml in 14 patients. 85% showed adequate DRV concentrations (trough levels >400 ng/ml).

**Conclusions:** In clinical practice darunavir 800 mg once daily plus Quad Combo Tablet were used as a simplification regimen in highly treated patients, with adequate darunavir levels and viral response.

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**SIMPLIFICATION (WITH ONE- OR TWO-AGENT REGIMENS) AND SWITCH STUDIES**

**THPEB062**

**SWITCHING FROM TRIPLE THERAPY WITH PROTEASE INHIBITORS PLUS TWO NUCLEOSIDE(IDE) TO DUAL THERAPY WITH PROTEASE INHIBITORS PLUS LAMIVUDINE FOR MAINTENANCE OF HIV VIRAL SUPPRESSION: A META-ANALYSIS OF EFFICACY AND SAFETY**

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**Background:** Antiretroviral treatment simplification to protease inhibitor (PI)/plus lamivudine (3TC) has shown to be safe and effective. We conducted a meta-analysis to assess the efficacy and safety of switching from triple therapy (TT) consisting of PI/r plus two NRTIs to dual therapy (DT) with PI/r plus 3TC.

**Methods:** Electronic databases were searched for studies evaluating switching from TT to DT. Eligible patients were adults, with at least 3-months of suppressed viremia, without previous treatment failure, and negative Hepatitis B surface antigen. Randomized clinical trials and cohort's studies were included. Random-effect meta-analysis model was conducted to measure the proportion of achieving virological suppression. Analysis of changes in CD4 cell count, total cholesterol and estimated glomerular filtration rate (eGFR) were evaluated in both arms. The outcomes were reported in Risk Ratios (RRs) and standardized differences in means.

**Results:** We identified seven studies; three were randomized and four observational. A total of 928 patients were included, 357 continue the TT and 571 switched to DT. Of the 571 patients with DT, 272, 167 and 132 used AT2/r, DRV/r and LPV/r as the PI/r, respectively. Tenofivir-based NRTI backbone was present in 71% of the patients before switching to DT. Meta-analysis found no statistically significant difference in efficacy (i.e. by intention-to-treat analysis with HIV RNA ≤ 50 copies/ml) between DT and TT (RR 1.03; 95% confidence interval (CI) 0.97-1.10; P = 0.27; I² = 0%). No significant differences for change in CD4 cell counts was observed between the two arms (standardized differences in means = 0.109 cells/mm3; p=0.341). DT was associated with an increase in both total cholesterol (standardized difference in means = 0.30 mg/dl; P=0.001) and eGFR (standardized difference in means = 0.2744 ml/min; P=0.001) vs. TT. Of the 571 assigned to DT, 61 (10.6%) developed virological failure (vs 15.4% in TT), but primary PI/r-associated mutations were not found. Conclusions: Switching from TT to DT is non-inferior and is not associated with increased risk of resistance development in virologically suppressed patients. However, there are mixed patterns of changes attributable to discontinuation of tenofovir component, which is known to reduce both total cholesterol and eGFR.
THPEB063  
EFFECTIVITY OF A MAINTENANCE FOUR-DAYS-A-WEEK REGIMEN, THE ANIS162-4D TRIAL

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Background: Previous studies (FOTO, BREATHER) have given encouraging results with a 5/7days efavirenz-based maintenance regimen. Based on pilot experience (Leibowitz, FASEBI-2015), we conducted a 48-week multicenter, open-label, single-arm prospective study evaluating efficacy and safety of a 4/7days maintenance therapy in HIV infected patients with controlled VL.

Methods: The main inclusion criteria were age>18 years; current regimen with 2 nucleoside analogues and either a boosted protease inhibitor (PI) or a NNRTI; no treatment modification in the last 6 months; VL < 50 c/ml for at least one year; no resistance mutation to the drugs in current regimen. Maintenance therapy used the same regimen, taken 4 consecutive days of each week. Virological failure (VF) was defined as VL>50 c/ml confirmed within 4 weeks between D0-W48. Patients were evaluated at D0, W4, W8, W12, W16, W24, W32, W40, and W48. The study was designed to show that the efficacy of the strategy ~80%, assuming a success rate ≥ 90%, with a power of 87% and a 5% type-one error. Values are presented as median [range]. Adherence to therapy was assessed by questionnaires, pill count, drug concentrations, and MEMS caps for a subgroup of patients.

Results: One hundred patients were included in the study. 82 men and 18 women, median age 47(25-75), CD4 naïve 28(27-104) cells/µL, and receiving ARV therapy since 5(11.3-25.2) years with VL < 50c/ml since 4(10.5-15.5) years. Current regimen included tenofovir-DP+FTC (89 patients) or abacavir+3TC (11 patients), combined with a PI/ for 29 (lopinavir/r-1, atazanavir/r-13, darunavir/r-15) or a NNRTI for 71 (EVG/r, RPV/25, ETV-5). After 48 weeks, 96% [95%CI 90-98, Kaplan-Meier estimate] were still under maintenance 4/7 days regimen without failure; 1 patient returned to 7/7 regimen and left the study at W4, VF was confirmed in 3/100 patients at W4, W8, W40, with VL 785, 124, and 969 c/ml respectively. These 3 patients returned to 7/7 regimen and VL was subsequently suppressed in all 3.

Conclusions: Over 48 weeks, maintenance ARV therapy with a 4 days a week regimen was effective in these patients with suppressed VL under 2 nucleosides and either a PI/r or a NNRTI, resulting in a success rate of ≥ 90%.

PHARMACOLOGY / PHARMAECONOMICS / PHARMACOGENOMICS / ROLE OF THERAPEUTIC DRUG MONITORING

THPEB064  
IMPACT OF FOOD ON THE BIOAVAILABILITY OF DARUNAVIR, COBICISTAT, EMTRICITABINE AND TENOFOVIR ALAFENAMIDE, THE FIRST PROTEASE INHIBITOR-BASED COMPLETE HIV-1 REGIMEN (DCFTAF)

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Background: DCFTAF is the first one pill, once-a-day protease inhibitor-based complete HIV-1 regimen containing darunavir (DRV, 800mg), cobicistat (COBI, 150mg), emtricitabine (FTC, 200mg) and tenofovir alafenamide (TAF, 10mg). The efficacy and safety of DCFTAF is being investigated in two large Phase 3 studies (NCT02431247, NCT02269917). The present study evaluated the impact of food on the bioavailability of the DCFTAF components (NCT02474130).

Methods: Open-label, 2-period crossover study in 24 healthy subjects. Subjects received a single dose of DCFTAF in fasted conditions or after a standardized high-fat breakfast, with a 7-day washout in between. Pharmacokinetic sampling occurred over 72 hours after dosing. Plasma concentrations of DRV, COBI, FTC and TAF were determined using validated LC-MS/MS assays. Pharmacokinetic parameters were calculated using non-compartmental methods. Safety and tolerability were assessed throughout the study.

Results: Results are summarized in the Table. The exposure to DRV and COBI administered as DCFTAF was 30-45% and 16-30% lower, respectively, in fasted compared to fed conditions. For FTC, the Cmax was 26% higher in fasted compared to fed conditions, while AUC was comparable. For TAF, the Cmax was 82% higher in fasted conditions, while the AUC was 20% lower (AUCinf) in fasted compared to fed conditions. Administration of DCFTAF was generally safe and well tolerated in fed and fasted conditions. There were no grade 3/4 or serious adverse events, and no discontinuations due to adverse events.

Conclusions: The exposure to DRV from the DCFTAF tablet is increased in fed conditions, similar to other (co-)formulations of DRV. Differences in the exposures to COBI, FTC and TAF in fed compared to fasted conditions are not considered clinically relevant. The DCFTAF tablet should be taken with food, which is also the recommended intake in the ongoing Phase 3 trials.

THPEB065  
HIV-1 DRUG RESISTANCE PATTERN AMONG PATIENTS SUSPECTED OF FAILING SECOND-LINE ANTIRETROVIRAL THERAPY IN NAMIBIA


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Background: HIV-infected patients on antiretroviral therapy (ART) are at increased risk of emergence of HIV drug resistance (HIVDR) and virologic failure (VF) due to the lifelong nature of ART, continuous drug pressure on HIV virus, and the associated treatment adherence challenges. The cost of antiretroviral drugs (ARVs) dramatically increases with change of ART regimen from 1st-line to 2nd-line or 3rd-line and hence necessitates the need for careful monitoring of HIVDR. Since 2007, Namibia has been conducting limited resistance testing in the public sector for patients suspected of failing 2nd-line ART. HIVDR genotyping results were abstracted from laboratory database and analysed for HIVDR mutations and subtypes. All genotypes were done using the TRUGENE HIV-1 Genotyping Kit (Siemens, Munich, Germany).

ANTERETROVIRAL DRUG RESISTANCE
The aim of this study was to characterize and sequence the HIV-1 protease (PR), reverse transcriptase (RT) and integrase (IN) regions of the pol gene.

**Methods:** We received blood samples from 527 patients during 2014. Viral RNA was isolated, the PR, RT and IN regions of the pol gene were amplified by RT-PCR and directly sequenced using in-house developed assays. The Stanford drug resistance database was used to identify mutations that are associated with drug resistance. Online typing tools, jhmm, REGA, RIP, Comet, SCUEAL and Stanford, were used for preliminary subtyping. Multiple sequence alignments were done with MAFFT and codon aligned. Maximum likelihood phylogenetic analysis was done with Geneious R8 and MEGA version 6.

**Results:** Samples were obtained from clinics and hospitals in 33 towns in the Eastern Cape. The age of the patients ranged from 12 months to 67 years and included 65.5% females and 34.5% males. Eighty-five percent of the patients had DRMs. PR sequences with DRMs was 4.4% and RT sequences with NNRTI and NNRTI DRMs were 78.7% and 81.2% respectively. A total of 3.1% of the sequences had both NNRTI, NNRTI and PI DRMs. Additionally, 15.3% of the sequences had accessory mutations in the integrase group and 0.75% had major IN mutations. Subtyping and phylogenetic analysis indicated that the majority of the samples were subtype C. Other subtypes detected, included HIV-1 subtypes A, B and unique recombinant forms (URFs).

**Conclusions:** With a complex epidemic that is constantly evolving, it is of utmost importance to monitor continuously for DRMs amongst people receiving ART. It is a growing concern that we have detected this high number of DRMs. Keeping patients on failing regimens could complicate ART options and regimens in the future.
Background: Antiretroviral therapy (ART) programmes in South Africa report high on-treatment suppression rates. However, virological failure and selection of drug resistance occurs regularly leading to increasing uptake of protease inhibitor (PI)-based second line ART. This study investigates drug resistance profiles in cases of virological failure during second line ART in a longstanding cohort of patients attending a rural South African clinic.

Virological failure was defined as ≥2 consecutive HIV-RNA measurements of >1000 copies/ml in patients receiving second line ART ≥6 months. Genotypic drug resistance testing on Dried Blood Spots (DBS) was performed as routine clinical procedure. DBS were shipped to a WHO-reference laboratory. Population genotypic analysis of the PR-RT region was performed. Resistance mutations were determined according to 2015-IAAS-USA figures. Clinicians received feedback including treatment advice based on mutational patterns, treatment history and drug availability.

Results: Between 2006 and 2015, 281 patients had received second line ART ≥6 months (64% female, median age 36.0 [IQR: 26.7 - 43.5]). Forty-three patients in care met the definition of virological failure on second line ART (58% female, median age 36.2 [IQR: 31.0 - 44.1]). All 43 patients received boosted (lopinavir either with AZT/3TC (72.1%), TDF/3TC (18.6%) or other NRTIs (9.3%). Median time after initiation of ART was 3.9 years and median time on second line ART was 1.7 years. At failure of second line ART median CD4 was 249 [IQR: 81 - 378] cells/μm³ and median log-HIV-RNA was 4.43 [IQR: 3.85 - 4.86] copies/ml. Major resistance mutations were present in 69.7% of cases. (Partial) resistance to the current regimen was present in 55.8%. Resistance was noted in 7 cases (6.0%). In 5/7 cases of PI resistance, encountered mutations conferred high-level resistance to lopinavir.

Conclusions: In this longstanding rural cohort virological failure during second line ART was frequently encountered. Although PI resistance was more frequently observed than is reported in high-income settings, almost half of the patients did not have resistance mutations to the second line regimen and a third did not harbour resistance mutations at all. These results indicate a potential role for drug resistance testing to enable clinicians to make rational treatment switches.

THPEB070
ADHERENCE AND VIRAL SUPPRESSION IN PREGNANT WOMEN ALREADY ON ART WHEN ENTERING ANTENATAL CARE IN CAPE TOWN, SOUTH AFRICA

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Background: Prevention of mother-to-child transmission (PMTCT) services have previously focused on HIV+ women who are newly initiating antiretroviral therapy (ART) in pregnancy. However, increasing numbers of women are already on ART when entering antenatal care. Despite the growing size of this population, there are few data on their ART adherence and HIV viral suppression. We examined self-reported non-adherence, non-suppressed viral load (VL), and factors associated with each among HIV+ pregnant women already on ART when entering PMTCT services in Cape Town, South Africa.

Methods: We recruited HIV+ women entering PMTCT services at a large primary care clinic for the MCH-ART study. This analysis focused on women on ART ≥4 months. At enrolment, self-report measures of concerns about taking ART during pregnancy (Coombs, p = 0.77), adherence self-efficacy (α = 0.93) and ART adherence were administered; VL testing (Abbott RealTime HIV-1) was conducted. We used multivariable logistic regression to explore factors associated with non-adherence (defined as missed ART doses on ≥2 days during the preceding 30 days) and with non-suppressed VL (VL >1,000 copies/ml).

Results: Among 482 women (mean age: 31.2 years; mean duration of ART use: 3.4 years), 22% reported any missed ART dose in the preceding 30 days; 15% reported non-adherence; and 20% and 12% had VL ≤50 and >1,000 copies/ml, respectively. Non-adherence was strongly associated with non-suppressed VL (OR: 2.68; 95% CI: 1.41-5.11). Adjusting for age, non-adherence was associated with single marital status (OR: 1.80; 95% CI: 1.03-3.15), unintended pregnancy (OR: 1.75; 95% CI: 0.99-3.08) and greater concern about taking ART (OR: 1.40; 95% CI: 1.09-1.82); higher adherence self-efficacy was associated with a reduced odds of non-adherence (OR: 0.47; 95% CI: 0.26-0.82). In adjusted analyses, non-suppressed VL was associated with report of previous discontinuation of ART (OR: 6.59; 95% CI: 2.93-14.79), greater concern about taking ART (OR: 1.38; 95% CI: 1.03-1.85) and unintended pregnancy (OR: 1.92; 95% CI: 1.02-3.64).

Conclusions: Among HIV+ pregnant women entering PMTCT on ART, substantial levels of non-adherence and non-suppressed VL were observed. Tools for identifying women entering antenatal care already on ART with adherence difficulties and elevated VL are needed to target counselling interventions and adherence monitoring.

THPEB071
UTILITY AND ACCEPTABILITY OF DRIED BLOOD SPOT (DBS) AND HAIR BIOMARKERS AS OBJECTIVE MEASURES OF ANTIRETROVIRAL THERAPY (ART) ADHERENCE AMONG HIV+ ADULTS IN SOUTH AFRICA

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Background: Current ART adherence measures have disadvantages such as subjectivity and patient/provider burden; none in clinical use measure drug ingestion. In a “real-world” setting, we compared utility and acceptability of assays of tenofovir-diphosphate (TFV-DP) in DBS and tenofovir (TFV) in hair as objective measures of ART adherence reflecting drug ingestion.

Methods: In 5 monthly visits, 28 HIV+ South African adults who had started ART containing TFV in the past month and were being monitored by an electronic monitoring device, Wisepill (WP), provided DBS and hair samples. At each visit, they were interviewed on acceptability of sampling, e.g., pain and willingness for repeated collection and self-collection. DBS TFV-DP and hair TFV were quantified by validated LC-MS/MS methods. We examined correlations between DBS TFV-DP and hair TFV and between drug levels from each source and percent of 28 days prior to sampling when WP was opened. Generalized estimating equations were used to account for intra-participant repeated observations.

Results: Participants were 90% women; mean age, 30 years. Mean % WP openings in prior 28 days was 74% (SD=34%). In currently available matched samples (37 from 15 participants), mean DBS TFV-DP was 967 fmol/punch (SD=391), and mean hair TFV was .86 ng/mg (SD=.59). DBS TFV-DP and hair TFV were significantly correlated (r=.598, p<0.002). Correlations of DBS TFV-DP and hair TFV with % WP openings were .378 (p=.040) and .148 (p=.327), respectively. Over time, participants reported high acceptance of finger-stick DBS sampling, including little/no pain and increasing willingness to do finger sticks at clinic visits and by self-collection. In contrast, over time, participants increasingly reported being unwilling to give repeated monthly hair samples as part of regular clinical care.

Conclusions: This is one of the first studies examining biomarkers of ART adherence among HIV+ South African adults in real-world clinical settings. Although this pilot study revealed a significant correlation between TFV-DP in DBS and hair TFV in hair as objective measures of ART adherence reflecting drug ingestion, in a “real-world” setting, we compared utility and acceptability of assays of tenofovir-diphosphate (TFV-DP) in DBS and tenofovir (TFV) in hair as objective measures of ART adherence reflecting drug ingestion.
Background: People living with HIV (PLWHIV) may not adhere to antiretroviral therapy (ART) by not taking the full regimen or, if on a multi-tablet regimen (MTR), by reducing the impact of treatment-selection bias, a propensity score matching (PSM) was considered. In order to maximize homogeneity between the STR and MTR cohorts, recommended QD regimens lasting for at least 90 days between 2009 and 2013 were used.

Objectives: To evaluate, in a European setting, how STRs, SA-free regimens, impact on adherence in HIV-1 infected patients compared to recommended once-daily MTRs.

Methods: ISTRAP is a retrospective, non-interventional international (Spain, Portugal, Italy and United Kingdom) study. The primary endpoint was to evaluate the probability of achieving ≥90% adherence. Patient-regimens consisting of recommended QD regimens lasting for at least 90 days between 2009 and 2013 were considered. In order to maximize homogeneity between the STR and MTR cohorts, recommended QD regimens lasting for at least 90 days between 2009 and 2013 were used.

Results: 915 patients were included, contributing 1393 patient-regimens over 5 years. After PSM, 911 regimens (453 STR, 458 MTR) remained for analysis. Patients on STRs were 2.4% (95% CI 1.7, 3.5, p<0.0001) times more likely to reach the ≥90% adherence threshold than patients on MTR (Table 2). Results were consistent using 95% threshold (OR 2.1, 95% CI 1.5, 2.9, p<0.0001).

Conclusions: STRs were associated with improved adherence when compared to a matched cohort of patient-regimens consisting of recommended QD regimens.

<table>
<thead>
<tr>
<th>Variable</th>
<th>MTR</th>
<th>STR</th>
<th>p-value before PSM</th>
<th>STR</th>
<th>MTR</th>
<th>p-value after PSM</th>
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<td>Makes</td>
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<td>456 (68.5)</td>
<td>0.0003</td>
<td>333 (72.7)</td>
<td>332 (73.3)</td>
</tr>
<tr>
<td>Age (Mean/Standard error)</td>
<td>Years</td>
<td>45.5 (0.3839)</td>
<td>46.2 (0.3795)</td>
<td>0.0275</td>
<td>45.2 (0.4463)</td>
<td>46.1 (0.4641)</td>
</tr>
<tr>
<td>Smoking (Yes/No), N (%)</td>
<td>Yes</td>
<td>210 (28.9)</td>
<td>264 (39.6)</td>
<td>&lt;0.0001</td>
<td>158 (34.5)</td>
<td>142 (31.3)</td>
</tr>
<tr>
<td>Drinking (Yes/No), N (%)</td>
<td>Yes</td>
<td>74 (10.2)</td>
<td>85 (12.9)</td>
<td>0.0009</td>
<td>62 (13.5)</td>
<td>62 (13.7)</td>
</tr>
<tr>
<td>Aids status (Yes/No), N (%)</td>
<td>Yes</td>
<td>101 (13.9)</td>
<td>139 (20.9)</td>
<td>0.0006</td>
<td>76 (16.6)</td>
<td>70 (15.5)</td>
</tr>
<tr>
<td>Hepatitis C antibody (Yes/No), N (%)</td>
<td>Yes</td>
<td>136 (18.7)</td>
<td>204 (29.7)</td>
<td>&lt;0.0001</td>
<td>101 (22.1)</td>
<td>111 (24.5)</td>
</tr>
<tr>
<td>ILagrude drug use, N (%)</td>
<td>Yes</td>
<td>46 (6.3)</td>
<td>71 (11.3)</td>
<td>0.0120</td>
<td>40 (8.7)</td>
<td>38 (8.4)</td>
</tr>
<tr>
<td>Presence of comorbidities, N (%)</td>
<td>No</td>
<td>442 (60.8)</td>
<td>326 (48.9)</td>
<td>&lt;0.0001</td>
<td>257 (56.1)</td>
<td>246 (54.3)</td>
</tr>
<tr>
<td>Current opioid substitution, N (%)</td>
<td>None</td>
<td>697 (95.9)</td>
<td>607 (91.3)</td>
<td>0.0005</td>
<td>432 (94.3)</td>
<td>423 (93.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>≥90% adherence N (%)</th>
<th>&lt;90% adherence N (%)</th>
<th>OR</th>
<th>95% C.I</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>Regimen</td>
<td>MTR</td>
<td>316 (69.8)</td>
<td>137 (30.2)</td>
<td>Ref.</td>
<td>-</td>
</tr>
<tr>
<td>STR</td>
<td>385 (84.3)</td>
<td>73 (15.9)</td>
<td>2.4</td>
<td>(1.7, 3.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Previous virologic failure</td>
<td>No</td>
<td>622 (77.6)</td>
<td>180 (22.4)</td>
<td>Ref.</td>
<td>-</td>
</tr>
<tr>
<td>Yes</td>
<td>46 (70.8)</td>
<td>19 (29.2)</td>
<td>1.0</td>
<td>(0.38, 2.8)</td>
<td>0.9334</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>≥90% adherence N (%)</th>
<th>&lt;90% adherence N (%)</th>
<th>OR</th>
<th>95% C.I</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art duration (per year longer)</td>
<td>None</td>
<td>33 (75.9)</td>
<td>11 (25.0)</td>
<td>2.7</td>
<td>(0.90, 8.1)</td>
</tr>
<tr>
<td>Infected RNA &gt;100,000 copies/mL</td>
<td>No</td>
<td>622 (77.6)</td>
<td>180 (22.4)</td>
<td>Ref.</td>
<td>-</td>
</tr>
<tr>
<td>Yes</td>
<td>46 (70.8)</td>
<td>19 (29.2)</td>
<td>1.0</td>
<td>(0.38, 2.8)</td>
<td>0.9334</td>
</tr>
<tr>
<td>CD4 ≤100 mm3 (per cell/mm3 higher)</td>
<td>None</td>
<td>33 (75.9)</td>
<td>11 (25.0)</td>
<td>2.7</td>
<td>(0.90, 8.1)</td>
</tr>
<tr>
<td>CD4 nadir &lt;100 mm3</td>
<td>None</td>
<td>33 (75.9)</td>
<td>11 (25.0)</td>
<td>2.7</td>
<td>(0.90, 8.1)</td>
</tr>
</tbody>
</table>

[Table 2 Multivariate results for 90% adherence]
and 35% initiated third-line therapy. Age ≥ 40, a number of adherence reinforcement measures ≥ 6 and a viral load at pre-inclusion ≤ 5 log, were independently associated with maintaining the second-line therapy.

Conclusions: Reinforcing adherence helped maintain 63% of patients on second-line ART. Pending baseline genotypic resistance test results, a wide choice of combined adherence reinforcement measures, a lower baseline viral load and age above 40 years were associated with maintaining second-line ART.

ETHICAL ISSUES IN CLINICAL TRIALS AND TREATMENT STRATEGIES

THPEB076 WHAT IS “TOO MUCH RISK” IN HIV CURE CLINICAL RESEARCH IN THE UNITED STATES?

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Background: We assessed perceptions of what is “too much risk” in HIV cure clinical research in the United States. Data inform possible risk thresholds and risky features that would make participants reluctant to join studies or regulators to approve them.

Methods: We implemented a cross-sectional survey among 400 HIV-positive adults in the United States in 2015. The sample was ethnically diverse and 38 U.S. states were represented. We also conducted key informant interviews with 36 people living with HIV, researchers, bioethicists, members of IRBs and regulatory agencies.

Results: Preliminary results revealed a high degree of variability in perceptions of what constitutes “too much risk” in HIV cure research. Activation of genes that would cause cancer (49% [95% CI: 44, 54%]; n = 358) and development of resistance to ARVs (37% [95% CI: 32, 42%]; n = 358) were the clinical factors most likely to discourage participation among HIV-positive volunteers. Perceptions of “too much risk” among this group ranged from first-in-human studies without underlying proof of concept, painful procedures, significant increases in viral load and decreases in CD4, interventions that would cause viral rebound, irreversible long-term side effects, damages to vital organs, immune system shut down, anything that would cause HIV to become unmanageable, progression to AIDS, debilitation or risk of death. Unacceptable social risks included drastic changes in quality of life, transmission of HIV to others, and inability to work or care for family. Financial risks included loss of disability income or insurance coverage. A minority did not place an upper limit on acceptable risk. For regulators, any intervention that would result in clinical hold or high likelihood of serious adverse events would be “too much risk.” Clinicians-researchers provided examples of risky modalities such as stem cell transplants in cancer-free patients, studies using PD-1 blockers or latency-reversing agents without demonstrated substantial reductions in reservoir size with treatment interruptions.

Conclusions: Despite challenges of making risk determinations at this juncture, knowing what risks are unacceptable is important to inform study design and ac- cural as well as informed consent. We should strive to maintain public confidence in the HIV cure research enterprise.
minimizing misconceptions that undermine genuine consent. We explored what, if any, social, psychological, and/or emotional benefits exist for HIV cure study participants. Accordingly, we considered the significance of these often unrecognized benefits and how they may impact responsible conduct of research.

Methods: We conducted in-depth, semi-structured interviews with 33 adults, including 15 HIV cure research participants, ten research staff (e.g. participant screeners, research coordinators), and eight bench scientists or physician-researchers in Chapel Hill and Durham, North Carolina, USA. Interviews were audio-recorded, transcribed, and then coded and analysed using MAXQDA® to identify themes related to participants’ experiences and perceptions of research benefits.

Results: The 15 HIV cure participant-interviewees were all male with a median age of 48 (range: 28-62 years). Most were white (13/15); one was Black, and one Latino. Ten of 15 participants self-identified as gay. All 15 participant-interviewees reported benefits related to cure research, including improved HIV knowledge/awareness (14/15); improved healthcare (12/15); improved personal relationships (8/15); and positive behavioural changes (5/15). Fourteen participant-interviewees described psychological/emotional benefits, including a sense of helping others. Other benefits included: sense of purpose, increased self-worth, and emotional support through interactions with research team members. Five participant-interviewees expressed intent to continue in cure research for as long as possible; two indicated that only death would stop them from participating in cure research. Among researchers and staff, social, psychological, and/or emotional participant benefits were only mentioned in roughly half of the interviews - suggesting less emphasis on these benefits.

Conclusions: We observed substantial unanticipated social, psychological, and emotional benefits associated with HIV cure research. These are important and are often the primary reasons participants continue to take part in studies. Participants felt they were taking part in something important and larger than themselves. These benefits, while subjective and contingent, should be considered when recruiting participants and are important for informed consent processes.

THPEB079
USE OF NON-PRESCRIPTION REMEDIES BY GHANAIAN HIV-POSITIVE PERSONS ON ANTIRETROVIRAL THERAPY

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Presenting author email: ala@uog.edu.gh

Background: Inappropriate use of non-prescription remedies by persons living with human immunodeficiency virus (PLHIV) may result in adverse events or potentiate the risk of non-adherence to prescribed medications. This study investigated non-prescription drugs use among PLHV receiving antiretroviral therapy (ART) from four treatment centers in southern Ghana.

Methods: A mixed method design using quantitative and qualitative methods was used. This paper focuses on the quantitative survey of 540 respondents. Univariate analysis was used to generate descriptive tabulations of key variables. Bivariate analysis and logistic regression modeling respectively produced unadjusted and adjusted associations between background attributes of PLHIV and use of non-prescription remedies. P-value < 0.05 was considered statistical significant. All analyses were performed using IBM SPSS Statistics for Windows, Version 20.0.

Results: Three-quarters of the respondents were female. One out of three respondents reported the use of non-prescription medication at least once within three months of the survey. Most of these were locally made and included concoctions from the Christian prayer centers, Garlick, and Mahogany syrups. These remedies were used concomitantly with antiretroviral drugs (ARVs) (>6%) or with ARVs but at different times (43%). Some of the remedies were reportedly prescribed by health workers (nurse prescribers), or self-initiated during periods of ARVs shortage or due to their perceived efficacy. Bivariate level analysis identified ART clinic site, place of residence, and ARV adherence monitoring to be significantly associated with non-prescription medication use (p < 0.05). Multiple logistic regression analysis controlling for covariates confirmed location of ART clinic as the only predictor of non-prescription medication use. Compared to clients at the large urban Teaching Hospital (Korle-Bu Fevers Unit ART center), those at the district level (Akuva ART center) were 9-fold more likely to use non-prescription remedies (adjusted odds ratio (aOR) 88.84; 95% CI 3.83 - 337.2). Those from a district level mission hospital (St. Martin’s ART center) were three-fold as likely to use these remedies (aOR = 2.610; 95% CI 1.074 - 9.120).

Conclusions: The use of non-prescription remedies by PLHIV on ART is common in Southern Ghana. Usage is mostly self-initiated because of perceived efficacy and is even more common among clients attending rural ART clinics.

COMPLEMENTARY AND TRADITIONAL MEDICINES
THPEB078
SAFETY AND TOLERABILITY OF MORINGA OLEIFERA LAM. LEAF SUPPLEMENTATION BY HIV-INFECTED PATIENTS ON ANTIRETROVIRAL THERAPY

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Background: Moringa oleifera Lam. (Moringaceae) leaf powder is commonly taken by HIV infected patients in developing countries to enhance immunity and manage opportunistic infections. This study was conducted to assess its effect on the liver and kidney function of HIV infected patients on antiretroviral therapy.

Methods: A one sequence cross-over, open label, phase I/IIa study was conducted over 35 days. Nineteen HIV infected adult patients were asked to take only their antiretroviral therapy and stop taking any other herbs and supplements for 21 days. Serum biochemistries and urinalysis were performed on day 21. This was followed by administration of 2 teaspoons of moringa leaf powder daily for 14 days. Serum biochemistries and urinalysis were performed again on day 35. Adverse events were monitored by a clinician and participants were asked open-ended questions about their well being throughout the study. Pre- and post-moringa data were analyzed by descriptive statistics, paired t-tests and McNemar tests.

Results: Participants had a mean age of 44(±8)years. Sixty-eight percent (n=13) were female. Seventy-four percent reported an increase in appetite and an average increased mean estimated clearance (48.5 mL/min, p= 0.03).

Conclusions: M. oleifera leaf powder was well tolerated among HIV infected patients on antiretroviral therapy. It promoted weight gain and did not result in hepatic or renal toxicity. A larger clinical study to confirm the sub-clinical effects observed is recommended, and then coded and analysed using MAXQDA® to identify themes related to participants’ experiences and perceptions of research benefits.

Results: The 15 HIV cure participant-interviewees were all male with a median age of 48 (range: 28-62 years). Most were white (13/15); one was Black, and one Latino. Ten of 15 participants self-identified as gay. All 15 participant-interviewees reported benefits related to cure research, including improved HIV knowledge/awareness (14/15); improved healthcare (12/15); improved personal relationships (8/15); and positive behavioural changes (5/15). Fourteen participant-interviewees described psychological/emotional benefits, including a sense of helping others. Other benefits included: sense of purpose, increased self-worth, and emotional support through interactions with research team members. Five participant-interviewees expressed intent to continue in cure research for as long as possible; two indicated that only death would stop them from participating in cure research. Among researchers and staff, social, psychological, and/or emotional participant benefits were only mentioned in roughly half of the interviews - suggesting less emphasis on these benefits.

Conclusions: We observed substantial unanticipated social, psychological, and emotional benefits associated with HIV cure research. These are important and are often the primary reasons participants continue to take part in studies. Participants felt they were taking part in something important and larger than themselves. These benefits, while subjective and contingent, should be considered when recruiting participants and are important for informed consent processes.

THPEB080
EXERCISE THERAPY FOR HIV/AIDS PATIENTS: GUIDELINES FOR CLINICAL EXERCISE THERAPISTS: A REVIEW

J. Graee1, S. Semple1, S. Combrink2
1University of KwaZulu-Natal, Biokinetics, Exercise & Leisure Sciences, Durban, South Africa, 2University of Canberrra, Canberra, Canberra, Australia, 3University of Zululand, Empangeni, South Africa
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Background: The human immunodeficiency virus (HIV) has infected more than 60 million people since its discovery and 30 million people have died from it since the pandemic began. Antiretroviral therapy has transformed HIV infection from an acute to a chronic disease, increasing life expectancy but also adding to the potential side effects associated with drug therapy and the co-morbidities accompanying longevity. Exercise can play a valuable role in the management of HIV/AIDS patients by addressing various symptoms and improving their quality of life but the optimum mode, intensity, frequency and duration of exercises that take the different clinical stages of the disease into consideration are inadequately known.

Methods: Searches of MEDLINE, EMBASE, CINAHL, HEALTHSTAR, PsyCINFO, Cochrane Database of Systematic Reviews and Controlled Trials, Physiotherapy Evidence Database and SPORTDISCUS were conducted between 2000 and January 2014. Searches of published and unpublished abstracts were conducted, as well as a hand search of reference lists and tables of contents of relevant journals and books. Identified studies were reviewed for methodological quality. A total of 33 studies met the inclusion criteria.

Results: Evidence-based research indicates that exercise training (aerobic/progressive resistive exercises and a combination thereof) by HIV-infected individuals is safe and positively influences side effects associated with the HIV disease itself as well as the cardiac metabolic and morphological complications that may accompany HAART.

Abstract Book | www.aids2016.org 583
D.W. Cameron1,2, W.L. Wobeser3, H. Huff1, R. Rosene1, E. Mills1, S. Walmsey1,3, D. Tan1, N. Tremblay1,2, M.J. Gill5,9, E. Ralph5,10, A. Rachlis5,7, H. Loomba1,11, M. Loutfy2,3, R. Malik12, K. Muldoon11,12, for the MAINTAIN Study Team.

1Division of Infectious Diseases, Department of Medicine, University of Ottawa at The Ottawa Hospital, Ottawa, Canada, 2Clinical Epidemicology Program, Ottawa Hospital Research Institute, Ottawa, Canada, 3Division of Infectious Diseases, Department of Medicine, Queen’s University, Kingston, Canada, 4Canadian College of Naturopathic Medicine, Toronto, Canada, 5ONR Canadian HIV Trials Network (CTN), Vancouver, Canada, 6Faculty of Health Sciences, University of Ottawa, Ottawa, Canada, 7Division of Infectious Diseases, Department of Medicine, University of Toronto, Toronto, Canada, 8Department of Anesthesiology, Pharmacology and Therapeutics, University of British Columbia, Vancouver, Canada, 9Department of Microbiology, Immunology and Infectious Diseases, University of Calgary, Calgary, Canada, 10Division of Infectious Diseases, Department of Medicine, University of Western Ontario, London, Canada, 11Department of Medicine, The University of Ottawa, Ottawa, Canada, 12Ottawa Methods Centre, Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, Canada, 13School of Epidemiology, Public Health and Preventive Medicine, University of Ottawa, Ottawa, Canada

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Background: Low serum micronutrient concentrations in HIV positive persons are associated with higher morbidity and mortality, but the general role of supplements as adjunctive medical management of HIV remains unproven. The objective of this study was to assess high-dose micronutrient, mineral and antioxidant supplementation (K-PAX Ultra®) compared to standard recommended daily allowance (RDA) multivitamins and minerals slows immune deficiency or disease progression or the start of ART.

Methods: MAINTAIN (NCT00798772, CTN 238, doi:10.1371/journal.pone.0085607) is a two-arm double-blind randomized control trial closed in 2015, to evaluate the effect of high-dose supplements on measures of HIV immuno-deficiency disease progression among ART-naive people with HIV and CD4 count >375 cells/µl. 171 volunteers in 15 Canadian sites received either a hi-dose or an identically looking RDA supplement. Primary outcome was a composite of time to first of CD4 lymphocyte count below 350 cells/µl, AIDS-defining illness, or start of ART over two years. A Kaplan-Meier survival analysis using the log rank test, and Cox proportional analysis using hazard ratios (HR) and 95% confidence intervals (CI) were used to assess between group differences using an intention to treat analysis.

Results: Of 171 enrolled, 40% (68) had at least one outcome at interim analysis: 9 reached a CD4 count below 350 cells/µl, 39 started ART alone, 20 reached a CD4 count below 350 cells/µl and started ART, 1 reached an AIDS-related illness and started ART. There was no significant difference in time-to-outcome between treatments (p=0.806, log-rank test; cox PH 0.83, 95% CI 0.51-1.34). We stopped trial accrual for futility, and have completed follow-up. CD4 T cell count trajectory was analysed by treatment group with censoring after ART. Mean CD4 decline per 3-months was 7.0 (RDA) and 8.9 cells/µl (hi-dose; difference -1.9 (-3.7, 7.5) p=0.5).

Conclusions: This well-designed rigorous RCT has identified no significant effect of high-dose micronutrient and anti-oxidant supplement in HIV immune deficiency disease progression and ART initiation, in comparison with a standard RDA micronutrient supplement.

**THPEBO82**

EFFECTS OF PROGRESSIVE RESISTANCE EXERCISES COMPARED TO AEROBIC EXERCISES ON BONE MINERAL DENSITY IN PATIENTS ON HIGHLY ACTIVE ANTI-RETROVIRAL THERAPY (HAART) AND HAART NAIVE

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Background: One of the most significant clinical challenges in HIV/AIDS infection is a decline in bone mineral density (BMD), suggesting a tendency towards osteopenia/aparathyroidism and fracture. The side effects of the anti-retroviral drugs - Highly active anti-retrotherapy (HAART) - may add to bone demineralization and other challenges of drug-drug interactions. Moderate intensity aerobic (MIA) exercises and progressive resistance (PRE) exercises were therefore considered as useful adjunct therapy considering their known benefits in improving bone turnover at menopause.

Methods: A single-blind randomized controlled trial of 89 patients attending the HIV clinic at Enugu State University Teaching Hospital Parklane, Enugu, used pre and post-test to observe the response of the BMD after 6 weeks of MIA exercises, PRE exercises and no exercises (control), which constituted the treatment groups, with sub-groups comprising patients on HAART and HAART naive, respectively. Patients gave written informed consent as approved by ethical committee. They were taught effective use of Borg Scale of the Ratings of Perceived Exertion (RPE), and exercised at an RPE of 10-13, which is interpreted as light to somewhat difficult. Group differences in the collected data were determined using repeated ANOVA, and LSD for post-hoc comparison at p<0.05

Results: There was a significant “between-subject” interaction effect for exercise condition and BMD (F=6.616, df=2, p=0.002), and for HAART and BMD (F=12.502, df=1, p=0.001), respectively. Post-hoc analysis shows a significant increase in the BMD in MIA versus PRE exercises (p=0.004, CI=1.016-0.83) and between MIA exercises versus control (p=0.004, CI=1.03-0.8409), respectively. The highest positive change factor (+76.82%) for BMD occurred with PRE group on HAART. The most negative change factor for BMD (-13.4%) was recorded for control group without exercise on HAART, respectively.

Conclusions: These results suggest that BMD may be influenced by exercise or lack of it in patients on HAART and HAART naive, such that group differences in BMD may be accounted for by the interaction of HAART and exercise in the patients. Based on the change factor, progressive resistance exercises is recommended to improve the BMD in HAART and HAART naive patient groups. Importantly, HAART should not be commenced without complimentary exercises considering its observed adverse effects on BMD.

**THPEBO83**

LOWER BLOOD ALCOHOL CONCENTRATION (BAC) AMONG HIV-POSITIVE VERSUS HIV-NEGATIVE MSM AFTER EXPERIMENTALLY CONTROLLED ALCOHOL ADMINISTRATION

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Background: HIV-related consequences, particularly impaired liver functioning, may result in higher levels of intoxication among HIV+ versus HIV- individuals after alcohol consumption. The present investigation entailed the first controlled alcohol administration experiment to assess whether level of objective intoxication differs by HIV serostatus.
**STREAMLINING ART INITIATION**

**THPEB085**

**DRAMATIC FALL IN DELAY IN INITIATION OF ANTIRETROVIRAL FROM 2011 TO 2015 IN TWO LARGE PUBLIC HIV TREATMENT CENTRES IN MELBOURNE, AUSTRALIA**

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1Monash University, Melbourne Sexual Health Centre, Melbourne, Australia, 2Monash University, The Alfred Hospital, Melbourne, Australia

**Background:** Early linkage to care and initiation of antiretroviral therapy (ART) are targets for intervention to increase population antiretroviral therapy (ART) coverage. We examined the delay between diagnosis of HIV and engagement in care and ART initiation at the two largest public HIV treatment centres in Melbourne, Australia.

**Methods:** Records from patients commencing ART at the Melbourne Sexual Health Centre and The Alfred hospital from 2011 to 2015 were extracted. The intervals (in days) between date of diagnosis and first day of ART, between diagnosis and first day of entry into care, and between entry into care and ART were calculated. The median intervals were calculated and the Kruskal-Wallis test was used to compare the changes over time.

**Results:** A total of 729 patients commenced ART at the study sites. Median age was 35.7 years. 83% of those with known risk exposure reported male homosexual contact. The median delay between diagnosis and initiation of ART decreased significantly from 418 days (IQR: 91-1176) in 2011 to 77 in 2015 (IQR: 39-290) (p < 0.001). The median delay between diagnosis and entry into care decreased significantly from 34 days (IQR 9-346) to 14 (IQR 5-29) (p < 0.001) and between entry into care and ART was 140 (IQR 36-609.5) to 51 days (IQR 21-216) over time (p < 0.001).

**Conclusions:** Median delay in initiation of ART fell by more than half between 2011 and 2013 and then again between 2013 and 2015, suggesting a rapidly changing dynamics a decreasing size of the untreated population.

**NUTRITION AND HIV**

**THPEB084**

**EFFECT OF A PROGRESSIVE RESISTANCE TRAINING PROGRAM AND WHEY PROTEIN INTAKE ON MAXIMAL STRENGTH IN HIV-INFECTED INDIVIDUAL RECEIVING ANTIRETROVIRAL THERAPY**

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**Background:** HIV-infected patients on ART may develop complications including sarcopenia and dynapenia. Resistance training (RT) in combination with protein-supplementation containing nutrition is effective in decreasing both conditions.

**Methods:** Forty HIV-infected participants (40.8 ± 17.7 yrs, 70.8 ± 16 kg, BMI 30.9 ± 7.2 kg.m-2) receiving ART (≥18 months) were randomly assigned to either a whey protein/progressive resistance training (PRT) group (n=18), placebo/PRT group (n=14) or control group (n=8). Participants received either 20g whey or placebo (maltodextrin) pre and immediately post each PRT workout. Whole body PRT was performed 3/week for 3 months with the loads progressing from 40-85% of the subject’s one-repetition maximum (1RM). The 1RM was done before(T1), after 3 months (T2) PRT program and 3 months following (T3) the cessation of the PRT program. Statistical analysis was done using a two-way ANOVA and Sidak’s multiple comparisons test in the intervention groups and a one-way ANOVA with repeated measures in the control group. Cohen’s effect sizes (ES) were also calculated and classified by Hopkins. Alpha was set at P ≤ 0.05.

**Results:** There was no significant interaction or group effect for the PRT groups. All ES from T1 to T2 and T3 indicated an increase in maximal strength. Bench press showed a medium ES (T1 to T3) for the placebo/PRT (p < 0.02), ES: d = 0.9; 95% CI 0.2 - 1.6). Squat had the largest ES (T1 to T2) for both the placebo/PRT (p < 0.001), ES: d = 1.5; 95% CI 0.8 - 2.3) and whey/PRT (p < 0.001), ES: d = 1.2; 95% CI 0.4, 2). Results from T2 to T3 showed positive ES for all exercises except deadlift and right/left grip strength, indicating a further increase in maximal strength in the whey/PRT group. In the placebo/PRT the majority of the ES were negative for all exercise except the squat, indicating a drop in strength during the detraining period.

**Conclusions:** A 3 month PRT programme increased maximal strength regardless of whey protein intake. The detraining period (T2 to T3) demonstrated minimal strength loss suggesting maintenance of strength gains particularly for the whey group.
from a centralized site with computers. They could also access the website from smartphones. You could access relevant information, ask questions and get clarification or referral.

Results: Ninety two HIV infected youth participated in the study with 48% being below 18 years with a mean of 18.4 years and mode of 17 years and median of 18 years. About half were girls. Reported behavior in relation to adherence improved in three months from the baseline. Importance of taking medications improved significantly. Confidence in taking medications also improved. Likelihood of missing doses of the medications reduced from 54% at baseline to 9% in three months (OR 12; 95%CI 4-42). Key external challenge was the reluctance of the parents and guardians to give consent for those below 18 years of age to participate in the study citing the need to maintain confidentiality.

Conclusions: Results from this pilot demonstrate the potential that the website peer support system can influence adherence to HIV treatment medications. Through this program we have demonstrated improved reported behaviour, we need to investigate whether the reported behaviour will likely translate to documented adherence, which will be the next phase of the study.

THPEBO88
PRIORITYING MEN HAVING SEX WITH MEN (MSM) TO ACHIEVE ZERO HIV INCIDENCES AND ZERO STIGMA

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Background: The Sex Workers Outreach Program (SWOP) opened its doors to all male and female sex workers operating within Nairobi County, Kenya in 2008. Among the services offered were STI/HIV screening, HIV-positives received care and treatment and positive health, dignity and prevention (PHDP) package while the HIV-negatives accessed a risk behavior reduction package that contained condom supply and every three monthly HIV testing. The SWOP program noticed that there were high numbers of MSM and MWS with HIV and did a baseline survey with a three monthly follow-up for HIV tests.

Methods: Baseline data was captured at enrollment on a quarterly basis for a period of one year from Jan-Dec 2015. The MSM that had tested HIV negative were restested after every three months and their HIV status documented. The parameters that were captured at baseline were: HIV prevalence, status disclosure, STI in the last three months, number of sex partners, correct and consistent condom use.

Results: 696 MSM participated in the survey. 71.2% (.495) reported to have been treated for an STI within the last three months prior to enrollment. 97.4% (.678) agreed to HIV test and 24.2% (.163) tested HIV positive. Only 36.9% (.60) of the HIV positive had disclosed their HIV status to their sex partners and only 66.3% (103) of the HIV positives had enrolled for HIV care and treatment. 97.9% (.882) had multiple sex partners of which 48% (.134) had both male and female sex partners. 88.9% (619) were practicing either receptive anal sex or both receptive and insertive anal sex. 63.8% (.495) reported condom use in their last sexual act but only 2.3% (16) demonstrated correct male condom use while 1.1% (8) demonstrated correct female condom use. At the end of the year, 13.4% (.69) of the 515 who had tested HIV negative on enrollment had sero-converted to HIV positive.

Conclusions: MSM sex workers are a key population that needs to be prioritized in HIV prevention strategies due to high STI and HIV prevalence, a very high HIV incidence, and risky behavior with multiple sex partners both male and female.

THPEBO89
EXREMELY LOW HEPATITIS C ANTIBODY PREVALENCE AMONG HIGH-RISK, HIV-POSITIVE AND HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN FROM COMMUNITY-BASED ORGANIZATIONS IN THAILAND

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Background: Globally hepatitis C (HCV) incidence is increasing among HIV-infected men who have sex with men (MSM). Whether anti-HCV should be part of the screening algorithm for MSM entering HIV treatment and prevention cascade is unclear. This study aimed to estimate HCV antibody prevalence among MSM and transgender women (TG) in large urban centers in Thailand. Methods: MSM and TG were enrolled at community-based organizations (CBOs) in Bangkok, Chiang Mai, Pattaya and Hat Yai into the Community-Based test and Treat Study during May-November 2015. Anti-HIV, anti-HCV, and syphilis serology were performed at study entry. We explored associations of anti-HCV prevalence with potential risk factors.

Results: Of 1025 participants (727 MSM and 298 TG), 853 were HIV-negative and 172 were HIV-positive. Median age was 25 (IQR 21-31) years; median monthly income was 280 USD. Positive anti-HCV tests were found in 7 (0.8%) HIV-negative and 1 (0.6%) HIV-positive participants. Five were MSM; 3 were TG. Compared to anti-HCV negative participants, anti-HCV positive persons were significantly older (median 34 (IQR 27-41) years; P=0.005), and more likely to have their highest educational attainment at or below junior high school (63% vs. 24%; P= 0.03). Although not statistically significant, anti-HCV-positive persons were more likely to be sex workers (50% vs. 26%; P=0.02) and to have used amphetamine-type stimulants in the past 6 months (25% vs. 8%; P<0.1). Both anti-HCV positive and negative persons...
reported high rates of unprotected sex (≥80%) and multiple partners (≥58%) in the past 6 months. Syphilis infection was identified in 1 (12.5%) anti-HCV positive and 63 (6%) anti-HCV-negative participants.

Conclusions: Regardless of HIV status, anti-HCV prevalence was extremely low among MSM and TG who had reportedly high-risk behavior in our setting, which implies comparably low rates of chronic HCV infection. Our results do not support routine HCV testing of all MSM and TG in our setting. Targeted screening among MSM and TG who are sex workers or who have other behaviors known to be associated with HIV infection should be explored further.

THPBO09 RETENTION INTO CARE AND HEALTH BEHAVIOR PROGRAM: DOES WAVE OF RDS RECRUITMENT MATTER?

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Background: The TRUST cohort study employed respondent-driven sampling (RDS) to recruit men who have sex with men (MSM) into HIV/STI prevention and treatment services in Abuja, Nigeria. RDS has been demonstrated to be effective in reaching more marginalized populations. Here, we evaluate waves of RDS recruitment with health care engagement and ultimate retention in the study at 6 and 12 months of follow-up.

Methods: 951 participants were recruited between 03/13-11/15 from 5 seeds resulting in 27 waves of accrual. Acrural waves were categorized into three groups consisting of nine waves each (1-9, 10-18, 19-27). Comprehensive structured instruments were administered at baseline and every 3 months including up to 18 months of follow-up. Differences in engagement in healthcare and 6/12 month retention by wave category were evaluated using Chi-squared test and bivariate logistic regression.

Results: Later waves were significantly less likely to be 20 years or older, have a prior HIV test or disclose their sexual orientation to health care providers as compared to the earliest waves (<p < 0.01). The participants who were of the earliest wave category had the highest proportion of retention at 6 months and 12 months (Table 1). Specifically, at 6 and 12 months of follow up, those recruited at wave 10-18 (OR, 0.53; 95% CI, 0.38-0.72), and (OR, 0.37; 95% CI, 0.25-0.54), respectively and wave 19-27 (OR, 0.33; 95% CI, 0.19-0.56), OR, 0.37; 95% CI, 0.20-0.67), respectively were less likely to be retained as compared to participants recruited at wave 1-9.

Conclusions: These data confirm the utility of RDS to engage a more marginalized population of MSM into a study offering universal ART for all those living with HIV. However, these more marginalized MSM are also the most difficult to retain in treatment strategies necessitating novel retention approaches to achieve sustained viral suppression.

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<td>434</td>
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<tr>
<td>19 - 27</td>
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([Table 1. Six and twelve month’s retention of MSM into care and care health behavior change program in Abuja, Nigeria 2013 -2015])

THPBO091 THE PREVALENCE OF ALCOHOL DEPENDENCE AND ACTIVE AMPHETAMINE USE ARE SUBSTANTIAL AND ASSOCIATED COMORBID MENTAL HEALTH PROBLEMS AMONG MALE SEX WORKERS IN VIETNAM

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Background: Male sex workers (MSW) are a particularly vulnerable group due to the stigma they experience as a result of sex work and male-sexual behavior, and have high rates of substance use. Mental health problems are often associated with substance use, which exacerbates sexual risk for HIV infection. However, little research on this topic exists among MSWs in Vietnam.

Methods: A survey was administered to 300 MSWs in Ho Chi Minh City using venue-based sampling stratified by how MSWs primarily meet clients, including sauna/massage, brothels, bicycle massage, street/parks, and callboys. We performed bivariate and multivariable logistic regression procedures to examine associations between psychosocial factors (i.e., clinically significant depressive symptoms, post-traumatic stress disorder (PTSD) symptoms, active suicidal ideation, poor self-esteem, history of childhood sexual abuse, adult sexual violence, and social isolation) and current substance use (alcohol dependency and amphetamine use in the past month).

Results: Median age was 21 (range 15-48). Participants identified as 51% homosexual, 32% bisexual, and 16% heterosexual. HIV risk behaviors were significant, with 33% reporting condomless anal intercourse in the past month, 35% had active alcohol dependence, and 15% reported amphetamine use in the past month. Mental health problems were common, with 47% having depressive symptoms, 37% PTSD symptoms, 30% active suicidal ideation, and 33% reported social isolation. In separated multivariable logistic regression models, factors independently associated with alcohol dependency were history of child sexual abuse (adjusted odds ratio (aOR)=2.2, 95% CI 1.0-4.8), amphetamine use (aOR=2.0, CI 1.0-4.0), suicidal ideation (aOR=1.9, CI 1.1-3.4) and PTSD related symptoms (aOR=1.7, CI 1.0-3.0), while depressive symptoms (aOR=2.6, CI 1.3-5.2) and alcohol dependence (aOR=2.2, CI 1.1-4.3) were associated with amphetamine use.

Conclusions: Vietnamese MSWs have high rates of mental health problems, substance use, and HIV sexual risk. Mental health problems appear to have different patterns of association with substance use, such that trauma may contribute more to alcohol dependency, while mood issues may be more linked to amphetamine use among MSMs. These findings not only have implications for HIV prevention efforts, but also demonstrate the need for mental health services and substance use treatment for MSWs in Vietnam.

THPBO092 ENGAGEMENT IN HIV/AIDS CARE AND LIKELIHOOD OF VIRAL SUPPRESSION ARE UNAFFECTED BY HIGH-INTENSITY CANNABIS USE AMONG PEOPLE WHO USE ILlicit DRUGS LIVING WITH HIV/AIDS

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Background: There is a growing interest in the use of cannabis to treat a variety of health conditions including HIV/AIDS-related symptoms and antiretroviral therapy (ART) side effects. Meanwhile, efforts to reform prohibitions on non-medical cannabis use are underway in many settings, including Canada. Previous research suggests that intense cannabis use negatively impacts HIV treatment outcomes. However, it
Background: Marijuana use and chronic pain are common among people living with HIV (PLWH). Medical or recreational use is now legal in many parts of the US, but it is unclear how potential increases in use would impact treatment or the prescription opioid epidemic: marijuana may boost analgesic effects of opioid pain relievers (OPR) and availability of medical marijuana appears to reduce risks of OPR overdose. Yet past or current substance abuse is common in patients receiving OPRs, increasing risks of overdose.

Methods: Medical records of HIV patients engaged in care at an academic HIV clinic in 2012 were reviewed for detailed information on OPR prescriptions. Prescription date, dose (converted to morphine equivalents), frequency, and duration were used to classify patients as no OPR use, short-term OPR use, and long-term OPR use (pre-scribed ≥120 days of OPRs in the calendar year). Patients with documentation of OPRs prescribed outside the medical center were excluded (n=171). OPR data were compared with self-reported marijuana use obtained at each clinic visit to determine if marijuana use was more common among OPR users and if more frequent marijuana use was associated with lower OPR doses.

Results: Among 1,765 patients included in the analysis, 344 (20%) received OPRs. There was no difference in marijuana use between long-term OPR users (19%), short-term OPR users (15.6%) and non-users (16.8%) and no difference in frequency of use. Among 30 long-term OPR users reporting concurrent marijuana use, more frequent marijuana use was associated with lower OPR daily doses (Figure).

Conclusions: More frequent marijuana use tended to be associated with lower daily doses of OPRs, yet marijuana use did not differ by OPR prescribing status in this HIV patient population. Further research should explore whether marijuana use may prevent escalation to higher OPR doses, thereby reducing risks of overdose.
combines an innovative application of contingency management (CM), in conjunction with Peer Health Navigation (PHN), to improve linkage to and retention in HIV care, and achieve viral load suppression, among trans women of color.

Methods: Between February 2014 and December 2015, 112 HIV-infected trans women of color were enrolled. During the 18-month intervention, participants earn CM rewards for confirmed linkage to HIV primary care, retention in HIV care, and reaching HIV milestones (i.e., medication adherence as confirmed by log reductions; VL suppression). If a participant attends all HIV care visits and reaches each verified HIV milestone, they can earn $500 USD in CM rewards over the 18-month intervention.

Results: Most participants identified as African American/black (46.5%) or Hispanic/Latina (25.0%), the mean age was 36.1 years (SD=7.9 years), 58.0% graduated from high school (and 70.5% reported at least one period of homelessness in the past 6 months. Participants commonly reported substance use, including marijuana (63.3%), methamphetamine (60.8%), amphetamine (35.4%), cocaine (30.4%), and crack cocaine (27.8%); 42.9% reported sex while high and 43.8% reported sex work in the previous 6 months. Seven participants were unaware of their HIV status at baseline (new HIV positivity rate=6.3%). At baseline, 27.7% had dropped out of HIV care, 37.5% were not prescribed ART, and 55.4% were prescribed ART but were non-adherent. To date, 50.0% have been linked into HIV care with an overall average enrollment-to-linkage time of 53.3 days (SD=44.4; range=0-420 days). Currently, 23.4% of the participants have achieved VL suppression. The intervention continues through August 2017.

Conclusions: Data indicates that the combined CM and PHN intervention is effective in linking and retaining trans women of color into HIV care. Longitudinal data on retention and ART adherence will provide further indication of whether this intervention can produce sustained VL suppression.

THEP096

HIV-TRANSGENDER WOMEN: DISPARITIES IN THE CARE CONTINUUM AT AN URBAN COMMUNITY HEALTH CENTER

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Background: Transgender women (TGW) are disproportionately affected by HIV infection with reported prevalence of 19%. Data on engagement and retention in care for HIV+ TGW is limited however studies have indicated lower ART adherence as a result of multiple structural and individual-level barriers. The Callen-Lorde Community Health Center (CLCHC) predominantly serves the lesbian, gay, bisexual, transgender (LGBT) communities and is the largest New York community-based provider of HIV care, with approximately 3,500 HIV+ clients. As part of quality improvement, we were tasked with identifying and responding to gaps in the HIV care continuum for our patients.

Methods: Data were extracted from the electronic health records for all HIV+ patients in care between 2/1/2015 and 2/2/2016, including demographics (race, ethnicity, age, sex at birth, gender identity) and HIV viral loads. Chart reviews ascertained antriretroviral (ART) use. Associations between viral load results and demographic factors were assessed using chi-square, student t-test. A logistic regression model was derived.

Results: 3,485 HIV+ ethnically diverse patients, including 330 (9.5%) TGW were engaged in care. Patient demographics: 51% white, 38% black, 4% multiracial, 6.1% Asian/Pacific Islander, 27% Hispanic/Latino ethnicity. The average age was 42 years (21-81). Overall virological suppression (< 200 copies/mL) at last laboratory measure was 88.7%. 20% of TGW failed to achieve suppression compared with 10.4% of nontransgender persons (p< 0.000). TGW had a higher mean viral load (13,168 copies vs. 3866 copies, p< 0.000). In the multivariate analysis, white race, adjusted odds ratio, (aOR) 1.39 (95% CI: 1.08, 1.79), p=0.011, being transgender aOR 0.58 (0.41, 0.84), p=0.004, and increasing age aOR 1.04 (1.03, 1.06) predicted viral suppression. A chart review revealed that 57% (860) of TGW with detectable viral loads had received a prescription for ART.

Conclusions: In our clinic, significant differences in virological suppression rates and mean viral load were seen between TGW and non-transgender clients. A high proportion of TGW had been prescribed ART but had detectable viral loads, possibly indicating adherence issues or drug-drug interactions that lower treatment efficacy. Cohort-specific treatment cascades are useful for identifying disparities among subpopulations that then facilitate targeted interventions to be developed.

THEP097

INDIVIDUAL AND POPULATION LEVEL IMPACT OF KEY HIV RISK FACTORS ON HIV INCIDENCE RATES IN DURBAN, SOUTH AFRICA

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Background: It's well documented that one of the key population groups are adolescent girls and young women with high reported HIV incidence rates. To advance our understanding of the high incidence rates in young women, we aimed to estimate the individual and joint impact of age, marital status and diagnosis with sexually transmitted infections (STIs) on HIV acquisition among young women at a population level in Durban.

Methods: We conducted a prospective observational analysis by combining 3,978 women who were recruited into 4 biomedical intervention trials from 2002-2009. Point and interval estimates of partial population attributable risk (PAR) were used to quantify the proportion of HIV seroconversions which can be prevented if a combination of risk factors is eliminated from a target population. We particularly focused on 1 unmodifiable risk factor (age) and 2 modifiable risk factors (cohabitation status and incidence of STIs). Hazard ratios and 95% CIs for HIV incidence rates were calculated using Cox regression models. PAR and their 95% CIs were calculated for individual risk factors and their combinations using Cox regression models. We also created a “highest risk” category for “< 25 years”. Analyses were performed using SAS statistical software, version 10 (SAS Inc., Cary, NC).

Results: Approximately 41% of women in the study population (n=3978) were < 25 years old. A total of 318 HIV incidence cases were observed. HIV incidence was significantly higher among younger women compared to older women. More than 71% of the observed HIV seroconversions (95% CI: 68, 73) were collectively attributed to 3 risk factors: younger age (< 25 years old), unmarried and not cohabiting with a stable/regular partner and diagnosis with STIs. Their partial contributions to the HIV incidence were 23% (95% CI: 18, 27) for < 25 years old, 59% for unmarried and not cohabiting with a stable/regular partner and 18% for being diagnosed with an STI.

Conclusions: To our knowledge this study is the first to investigate the PAR of HIV risk factors in Durban, SA. An effective intervention is needed which encourages all sexually active young women to either marry or cohabit and prevent STIs through safe sex behavior.

THEP098

COVERAGE OF PREVENTION SERVICES AMONG KEY POPULATIONS

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Background: HIV prevalence is 13.7% among men who have sex with men (MSM) in Bamako, Mali; 8 times that of men in the general population (prevalence 1.6%). Increasing HIV testing among MSM is critical for reducing the burden of HIV in this priority population. We identified correlates of HIV testing among MSM in order to inform HIV service provision and work towards the achievement of the UNAIDS 90-90-90 targets.

Methods: We conducted a cross-sectional survey using respondent-driven sampling among 552 MSM from October 2014 to February 2015. Eligibility criteria included age 21 years, residence in Bamako or its suburbs in the past 6 months, and having
PREVENTION FOR VERTICAL TRANSMISSION

THPEC100
GESTATION IN ADOLESCENTS INFECTED BY HIV THROUGH VERTICAL TRANSMISSION

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Background: Advancements in HIV treatment through new antiretroviral drugs (ARV) as well as more effective prophylactic and monitoring measures have made aging possible in the pediatric population with infectious diseases. Today, more than 80% of cases treated in infectious diseases clinics in Brazil are adolescents. Pediatricians face new challenges, such as the growing number of gestations within this group and the birth of the third generation of patients with HIV. Understanding the particularities of these patients is fundamental to assuring good care is provided.

Objective: Description of a cohort of gestational adolescents infected by HIV through vertical transmission.

Methods: Data collected by chart analysis and epidemiological data in 2015, of gestational adolescents infected with HIV by vertical transmission who received assistance at HIV/STD Clinics in São Paulo - Brazil.

Results: Out of 44 adolescents in childbearing age followed up in these clinics, 23 pregnancies were identified in 14 patients (8 had 1 pregnancy, 3 had 2 pregnancies, and 3 had 3 pregnancies each, including one abortion), between 2006 and 2015 (18 of them within the last 5 years). The average age for the first pregnancy is 18.9 years (youngest being 14). 100% of them received prenatal care and ARV during pregnancy and labor. 17/22 pregnant adolescents (77.2%, excluding the abortion) presented a detectable viral load (47% of those presented over 10,000 cp/ml) and 7/22 (31.8%) had CD4 lower than 200cells/mm3. In relation to birthing methods, 20/22 were cesarean and 2/22 were vaginal. 100% were living newborns (NB), with 27.3% (6/22) premature. One adolescent and five NB (22.7% - 5/22) died, including four neonatal and one 2 month-old due to SIDS. 11/17 living babies were uninfected by HIV and 6/17 are in follow up.

Conclusions: This topic deserves attention from the AIDs clinics, particularly since it has not been researched within the population of seropositive adolescent females and due to the high rate of unfavorable results in our sample. Teams must be better prepared and teenagers must be educated in the subject of sexual and reproductive rights, facilitating their adequate access to contraceptive and family planning methods.

THPEC101
HIV TESTING AS A BOTTLENECK TO ELIMINATION OF MOTHER TO CHILD TRANSMISSION IN THE SOUTH-EAST ASIA REGION

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Background: Countries in South-East Asia region of World Health Organization have committed to elimination of mother-to-child transmission of HIV. All countries in the region recommend provider initiated testing and counseling for pregnant women (PW) in antenatal care (ANC) clinics. But this region is far from achieving the elimination target.

We look at the strategy for and coverage of HIV testing for PW in seven priority countries.

Methods: An extensive review was conducted on the prevention of mother-to-child transmission (PMTCT) programmes in seven countries in October 2015, which was based on reported data and questionnaire survey to countries. From this review, we present the HIV testing strategy for PW and latest available data on ANC coverage (one or more visits), HIV testing rates in PW, and proportion of the estimated HIV-positive PW diagnosed.

Results: Of the seven countries, universal HIV testing is provided in three countries (India, Myanmar, and Thailand). ANC coverage is almost 98% in Thailand; nearly all PW received HIV testing (2014) and 96% of the estimated HIV-positive PW were diagnosed. In India and Myanmar, ANC coverage is high but only 38% and 51% PW received HIV testing (2014), respectively. As a result, only 35% of the HIV-positive PW were diagnosed in India in 2014. Three countries (Indonesia, Nepal and Sri Lanka) have prioritized HIV testing for PW in high prevalence areas. Between 6-45% of PW received HIV testing in these countries and >70% of HIV-positive PW were unaware of their HIV status (2014 data). Bangladesh follows geographical prioritization with risk assessment approach for HIV testing in PW, provided in three medical colleges. Less than 1% PW were tested for HIV in 2014 and 23 tested positive, accounting for 18% of the estimated HIV-positive PW.
Conclusions: Regardless of the HIV testing strategy, HIV testing in ANC is low in all countries except Thailand, posing a unique challenge for scaling up of PMTCT services. Targets of elimination of mother to child transmission of HIV are unlikely to be achieved in all countries except Thailand. Urgent scale-up of HIV testing in ANC is needed to address the critical bottlenecks for ensuring a HIV free generation.

**THPEC102**

THE CASCADE OF CARE OF PREGNANT WOMEN ON THE HIGHLY ACTIVE ANTIRETROVIRAL THERAPY IN SOUTH AFRICA: IMPLICATIONS FOR ELIMINATION OF MOTHER TO CHILD TRANSMISSION

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Background: To achieve complete elimination of mother-to-child transmission, it is important that HIV-infected pregnant women are diagnosed, linked to and remained in care, and then initiated and maintained on the highly active antiretroviral therapy (HAART) and reached virological suppression throughout the period of pregnancy, labour and delivery, and breastfeeding. This study aimed to evaluate the implementation of the lifelong HAART and the impact on the cascade of care of HIV-infected pregnant women attending maternal services in the Eastern Cape Province, South Africa.

Methods: An electronic point of care database for monitoring of treatment outcomes of HIV-infected pregnant women was implemented across three maternity services in Eastern Cape. We obtained relevant data on the demographics, time of HAART initiation, and type of HAART regimen, prior defaulting of HAART, CD4 count at booking, viral load at booking and viral load at delivery. Primary outcome measure is the peri-partum viral response categorised as suppressed viral load (VL < 20 RNA copies/ml), low viralemia (VL=20-999 RNA copies/ml) and high viral load (VL>1000RNA copies/ml). We performed univariate and multivariate analyses to identify the factors that contributed to peripartum suppression viral suppression.

Results: Of the total participants (n=675); the peripartum virological suppression rate was 66.9%. Significant proportions of peri-partum women had low viralemia (10.3%) and high viral load (22.8%). The majority of individuals with high viral load were 20-29 years old (27.2%), single (26.2%), lived in rural residence (31.4%), unemployed (25.5%), consumed alcohol during pregnancy (29.7%), did not disclose HIV status to sexual partner (28.4%), non-adherent by self-reporting (48.7%) and failed to pick up pills on time (36.1%) and had prior history of defaulting of HAART (57.6%). After adjusting for confounding factors in the model analysis, on-time pick up of pills (p<0.03), booking CD4 count < 200 cells/mm³ (p<0.000), previous VL>1000 RNA copies/ml (p=0.000) and prior defaulting of HAART (p<0.01) were the only independent and significant determinants of high peri-partum viral load in the cohort. Of the women who chose exclusive breastfeeding (n=605); 24.3% had high viral load.

Conclusions: High peri-partum viral load during delivery and breastfeeding constitute significant risk of infant transmission. Complete suppression with HAART will require programmatic re-engineering by focusing on addressing the determinants.

**THPEC103**

INFANT FEEDING PRACTICES AT 14 WEEKS AMONG HIV-INFECTED AND UNINFECTED MOTHERS IN KWAZULU-NATAL (KZN), SOUTH AFRICA

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Background: Exclusive breastfeeding (EBF) for the first six months of life is crucial for child development, health and survival. Previous estimates suggest that rates of EBF in South Africa are very low. For HIV infected mothers repeated changes to feeding practices to guidelines for prevention of mother-to-child HIV transmission (PMTCT) in recent years has led to conflicting and confusing infant feeding advice, and provision of free formula milk in government health services. As a result many HIV infected mothers chose to formula feed their infants. Current PMTCT guidelines strongly promote EBF for six months. This study investigated infant feeding practices amongst caregivers in all 11 districts in KZN.

<table>
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</tr>
<tr>
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</tr>
<tr>
<td>P value</td>
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</tr>
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</table>

Methods: All caregivers aged ≥14 years attending with an infant aged 13 – 16 weeks at 99 randomly selected primary health care clinics were eligible to participate. All participants provided written informed consent. Structured interviews were conducted to investigate infant feeding practices.

Results: 3661 interviews were conducted with mothers between June 2014 and March 2015. 3569/3661 (97.5%) reported having been previously tested for HIV. Of whom 1274 (35.7%) reported themselves HIV positive, of whom 1139 (89.4%) were on antiretroviral treatment at the time of interview. Infant feeding practices are shown in table 1.

**PREVENTION FOR THE GENERAL POPULATION**

**THPEC104**

SYSTEMATIC REVIEW AND META-ANALYSIS OF HCV INFECTION AND HIV VIRAL LOAD: INSIGHTS INTO EPIDEMIOLOGIC SYNERGY

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Background: Hepatitis C virus (HCV) and HIV infection frequently co-occur due to overlapping transmission routes. Co-infection is associated with higher HIV viral load, but less is known about the effect of HCV infection on HIV viral load and risk of onward transmission. Other HIV co-infections such as acute malaria, herpes simplex-2, and tuberculosis increase HIV viral load, likely through inflammatory-mediated mechanisms. HIV viral load is the key determinant of HIV transmission and consequently, these HIV co-infections have the potential to increase the probability of HIV transmission through significant increases in viral load.

Methods: We undertook a systematic review of articles indexed in PubMed and Embase comparing i) HIV viral load among ART-naive, HCV co-infected individuals versus HIV mono-infected individuals and ii) HIV viral load among treated versus untreated HCV co-infected individuals. We performed a random-effects meta-analysis and quantified heterogeneity using the I² statistic. We followed Cochrane Collaboration guidelines in conducting our review and PRISMA guidelines in reporting results.

Results: We screened 3,337 articles and identified 16 relevant publications. Fourteen studies addressed the impact of HCV infection on HIV viral load, while two studies examined the impact of HCV treatment on HIV viral load. The majority of the studies classified participants based on HCV antibody testing alone without RNA confirmation of active viremia. Only four studies found strong evidence of association (p<0.05) between HIV-HCV coinfection and HIV viral load, with all four pointing towards higher HIV viral load among mono-infected patients than among co-infected patients. A meta-analysis found no evidence of increased HIV viral load associated with HCV co-infection or between HIV viral load and HCV treatment with pegylated interferon-alpha-2a/b and ribavirin.

Conclusions: In our systematic review, HCV infection was not associated with an increase in HIV viral load among adults with HIV infection. This is a striking contrast to the increases in HIV viral load observed with other systemic infections. This finding presents opportunities to elucidate the biological pathways that underpin epidemiological synergy in HIV co-infections and may enable prediction of which co-infections are most important to epidemic control.
**PREVENTION FOR YOUTH AND ADOLESCENTS**

**THPEC107**

**ARE SCHOOL-BASED SEX EDUCATION INTERVENTIONS EFFECTIVE IN PREVENTING STI/HIV IN SUB-SAHARAN AFRICA? A SYSTEMATIC REVIEW AND META-ANALYSIS OF EVALUATED INTERVENTIONS**

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**Background:** School-based sex education is the most comprehensive, uniform and effective way of promoting sexual health among adolescents and young adults. We systematically reviewed evaluations of school-based sex education interventions in sub-Saharan Africa to determine effectiveness of the interventions in promoting condom use and preventing sexually transmitted infections (STIs) including Human Immunodeficiency Virus (HIV). We also examined factors in the design and implementation of the interventions that may be associated with effectiveness.

**Methods:** We searched electronic databases, key journals and reference lists of included studies for school-based interventions that promote condom use in sub-Saharan African schools. We extracted data on intervention characteristics, quality, implementation details and outcomes. Results were synthesized using random effect meta-analysis. The statistical difference in the occurrence of features that may be associated with effectiveness between the effective and ineffective interventions was determined using Chi-Square test.

**Results:** Thirty two evaluated interventions met our inclusion criteria. Overall, interventions had a significant effect on condom use in the short and medium term (OR = 1.62, 95% CI = 1.03-2.55, p = 0.04 and OR = 1.40, 95% CI = 1.16-1.68, p = 0.0004 respectively). However, only few evaluations measured STI/HIV and the interventions showed no statistically significant effect in preventing HIV (OR = 1.16, 95% CI = 0.87-1.54, p = 0.31) or HSV2 (OR = 1.08, 95% CI = 0.94-1.24, p = 0.27) infections. Only 11 out of the 32 interventions reported implementation details. 15 features that may be associated with effectiveness were identified, with “adapting programs from pre-existing interventions” and “extending activities outside the school environment” significantly differed between the effective and ineffective interventions. Interventions are more likely to be effective if six or more of the 15 features are included.

**Conclusions:** School-based sex education showed some effectiveness in promoting condom use among adolescents and young adults in sub-Saharan Africa. The effectiveness of future interventions can potentially be improved by including six or more of the features identified to be associated with effectiveness. However, more work is needed to implement and evaluate interventions with measurable effects on STI/HIV in addition to reporting details of the implementation processes.
PrePex Safety and Efficacy Study for Adolescent Males with Contraindicated Subjects

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Background: Following the WHO Framework for Clinical Evaluation of Devices for Male Circumcision the PrePex device was added to the pre-qualification list for use in adolescents above the age of 18. The WHO Framework also recommends studies to assess device safety in a wider range of subjects than those in previous studies, bridging studies are required to extend use of PrePex to age groups younger than those included in the pre-qualification, adolescents under the age of 18 years.

The primary objective to assess safety of device in adolescents.

Methods: The study was conducted at Rwanda Military Hospital between August to October 2015, recruiting adolescents ages 10-15 years. The study was evaluated and approved by the Rwanda National Ethics Committee on March 23rd, 2015, approval number 091/RNEC/2015. Nurses and physicians did the procedures and data was collected using Case Report Forms (CRFs).

Results: Out of the 96 participants undergoing PrePex, 50% presented one or two contraindications. The majority contraindications presented were adhesions, 41/96 subjects, about 42% while only 8/96, about 8% presented narrow foreskin / tight phimosis. All contraindicated subjects underwent a successfully standard PrePex placement after having their contraindication resolved in a non-surgical manner as described above. For 12/48 participants with contraindications oozing was observed as a result of the resolution, in all cases oozing was slight and mostly seen on the provider gloves above.

Conclusions: PrePex non-surgical procedure is feasible, effective and safe on men ages 10-14 that have contraindications such as phimosis or preputial adhesions. There were no AEs in our study related to the contraindication resolution methods. 5% Lidocaine cream was found to be safe and efficient pain mitigation for the contraindication resolution.

HIV Prevention Services and Education Among Adolescent Men Who Have Sex with Men

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Background: Many intervention programs have been developed to target adult men who have sex with men (MSM). However, few effective interventions targeting young MSM (YMSM) have been developed, and access for adolescent MSM may be limited due to cultural and structural barriers.

Methods: The National HIV Behavioral Surveillance YMSM Pilot Study was conducted among young men ages 13 -18, who were sexually attracted to or had sexual contact with other males and who resided in the New York City area. Participants were recruited using respondent-driven sampling and venue-based sampling, and interviewed using Computer Assisted Personal Interviews over a 13-month period. Survey topics included sexual behavior, sex education, and HIV prevention service use.

Results: Overall, 232 persons responded. Of these, 81.4% (n=189) learned about HIV in school but only 66.4% (n=138) learned how to use a condom. Furthermore, only half were instructed about condom use for oral or anal sex. About 52.6% (n=122) learned about sexual orientation in schools, with 50.8% (n=62) reporting the tone as positive. Respondents were grouped for analysis by early sexual debut (by age 15) (n=83, 35.8%) versus later or no debut (n=149, 64.2%). Those with early debut were significantly more likely to have obtained free condoms within the past 12 months (90.4% vs. 71.1%, p<0.05), as well as to have obtained them from a clinic or LGBTQ organization (70.0% vs. 43.0%, p<0.05). Furthermore, YMSM with early debut were also more likely to have obtained individual or group HIV prevention counseling from LGBTQ organizations (49.4% vs. 23.5%, p<0.05).

Conclusions: While many YMSM have access to relevant sexual health services, school-based sexuality education does not adequately target specific needs of YMSM. Most YMSM with early sexual debut were able to obtain free condoms and many are connected with LGBT services. However, specific gaps remain in reaching adolescent MSM; future studies should compare needs of YMSM to other adolescent populations. HIV/AIDS education and prevention services that are accessible to youth. Future research should explore the gendered vulnerabilities of HIV risks on street-involved youth’s mental health.
regarding demographics and sexual behaviors of young KPs aged 16 to 24 were collected from 6 CCCs and analyzed between March 2013 and November 2015 in Greater Cairo and Alexandria.

Results: A number of 2857 Young KPs was outreached, while 2965 visited the center. The males constituted the majority of the CCC visitors (93.7%). Almost 20% have received some university education. Regarding engaging in sexual activities, 97.6% reported ever having sex, and about 30% had sex with a same sex partner. As for sex exchange in the past year, 27.6% engaged in commercial sex, and 14% exchanged sex for drugs. Only around 5% reported having an STI in the last six months. As for condom use, 87% didn’t use it during last sexual activity with a non-steady partner. However, about 85% expressed willingness to use condoms. Out of the visit beneficiaries, 2796 received Voluntary Counseling and Testing. For 88.6% of the visitors, engaging in risky behavior was the reason for visiting the VCT, and around 65% were concerned about their new sexual relations. Out of the 2664 who tested for HIV, 2.5% were detected positive.

Conclusions: With almost all young KPs reported ever having sex, along with low condom use, there is risk of HIV transmission among them. A situation analysis integrated with the national Demographic and Health Survey to assess sexual behavior trends among young people is recommended. Additionally, there is a need to expand the HR approach of NAHR to other programs targeting the sexual health of youth.

THPCE112
SEXUAL LEARNING IN EAST AFRICA: IMPLICATIONS FOR HIV PREVENTION AMONG ADOLESCENTS

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Background: Kenya, Tanzania, and Uganda together account for 20% of the world’s HIV-infected adolescents. By 2020, the United Nations aims to reduce new infections among adolescents by 75% through a four-pronged strategy that includes comprehensive sexual and reproductive health education. This effort could be informed by a synthesis of existing research about the formal and informal sexual education of adolescents in high-prevalence countries. The purpose of this study was to describe the process of sexual learning among East African adolescents.

Methods: Qualitative meta-synthesis, a systematic procedure for integrating the results of multiple qualitative studies of a similar phenomenon, was used. Fourteen electronic databases were searched for peer-reviewed papers that (a) were published in English between 2003-2014, (b) used qualitative methodology, (c) included 13-20-year-old adolescents in Kenya, Tanzania, or Uganda, and (d) addressed topics related to sexual health.

Through a systematic review process, 31 papers were determined to meet study criteria and were analyzed in four steps: appraisal of the papers, classification of the findings, synthesis of the findings, and construction of a framework depicting the process of sexual learning in this population.

Results: The framework includes four phases of sexual learning: 1) being primed for sex, 2) making sense of sex, 3) having chosen, coerced, or violent sex, and 4) living with the consequences of sex. Adolescents were primed for sex through gender norms, cultural practices, and economic structures as well as through informal and formal instruction. They made sense of sex by acquiring information about sexual practices, relationships, and HIV - although their knowledge was often limited - and by developing a variety of beliefs and attitudes about sex. While some adolescents described having sex to meet their own wants and needs, many described having sex that was coerced or violent. Their sexual experiences had intrapersonal and interpersonal consequences for themselves, their families, and their communities.

Conclusion: The four phases of sexual learning interact to shape adolescents’ sexual lives and their risk for HIV infection. This framework will contribute to the development of sexual and reproductive education programs that address risk within the broader context of sexual learning.

THPCE113
TRANSACTIONAL SEX AND RISK FOR HIV INFECTION IN SUB-SAHARAN AFRICA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Young women aged 15-24 in sub-Saharan Africa have continued to be disproportionately affected by HIV, which may, at least in part be driven by transactional sex. Despite this speculation, little has been done to understand the contribution of transactional sex to this disproportionate HIV risk. We therefore set out to systematically review studies that assess the relationship between transactional sex and HIV among men and women in sub-Saharan Africa and to summarize the findings through a meta-analysis.

Methods: A systematic review of cross-sectional and longitudinal studies was carried out for studies on women and men who engage in transactional sex published up to 2014. Random effects meta-analysis was used to examine the relationship between transactional sex and prevalent HIV infection across a subset of studies with the same exposure period. Analyses were conducted separately for men and women.

Results: Nineteen studies met our inclusion criteria. Of these, 14 provided data on women; and 10 on men. We find a significant, positive, unadjusted or adjusted association between transactional sex and HIV in 10 of 14 studies for women; and two of 10 studies for men. Unadjusted meta-analysis findings are significant for women (n=4; pooled OR=1.54, 95%CI 1.04 - 2.28; I²=42.5%, p=0.156), but not for men (n=4; pooled OR=1.47, 95%CI 0.85-2.56; I²=50.8%, p=0.107).

Conclusions: Transactional sex is associated with HIV among women, while male findings were heterogeneous. However, there is a need for better measurement of the practice of transactional sex and; longitudinal studies to establish the causal pathways between transactional sex and HIV.

THPCE114
FACTORS INFLUENCING HIV DISCLOSURE BY YOUNG PEOPLE (10-24 YEARS) LIVING WITH HIV: STUDY RESULTS IN ZIMBABWE

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Background: SAFAIDS in partnership with Oxfam conducted a study to examine the factors influencing HIV disclosure to and by young people born and living with HIV and how the dynamics of disclosure affect HIV prevention, treatment adherence and the psychosocial well-being of HIV-positive young people aged 10-24 years.

Methods: Data was collected through focus group discussions with young people living with HIV and their primary caregivers separately, in-depth interviews with key informants, participatory exercises such as the use of mock gossip and life story telling to share one’s lived experiences, and oral administration of a structured questionnaire on young people. Data was collect in Zimbabwe and Bulawayo in Zimbabwe.

Results: 54% (107) of the young people had disclosed their HIV-positive status to someone. Disclosure rates were higher among female (65%) than male (40%). Seventy-three percent of support group members had disclosed their status compared to only 41% among non-support group members. Disclosure was also highest among respondents who had received information on disclosure (62%) compared to 32% among those who had not. 77% of the people who indicated that disclosure information received was adequate had disclosed their status. Of the 93 who had not disclosed, 76% indicated that it was due to stigma and discrimination, fear of rejection (20%) and lack of confidence (17%). Young people dominantly felt that HIV status disclosure was best timed if done on or before 14 years (79%). Attitudes towards HIV status disclosure were generally positive, with 90% of the respondents feeling more positive after disclosing than before disclosing their status. Girls and young women expressed an attitude sufficiently positive to urge others to follow their examples of disclosing their HIV at a higher rate of 61% than boys and young men (57%).

Conclusions: Stigma and discrimination, perceived number of youths in a similar situation, fear of rejection, preparedness of an HIV-positive caregiver to disclose own status to their children, age, knowledge on disclosure and sexuality activity were identified as the main HIV disclosure determinants.
**THPE115**

**THE SITUATION OF HIV AND AIDS IN PRIMARY, SECONDARY AND HIGH SCHOOLS AND WAYS TO LOWER NEW INFECTIONS: CASE OF DAR ES SALAAM, TANZANIA**

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**Background:** HIV infection is believed to be high among adolescents and youngsters studying in schools in Dar Es Salaam, Tanzania. These adolescents and youths are more at risk of getting infected compared to their counterparts living in rural and suburban areas. We selected this particular location due to high prevalence of HIV/AIDS.

**Methods:** This study used mixed research approach. We used qualitative method research approach to get in-depth understanding of the subject matter. An in-depth face to face interview and focus group discussion with the students in their schools compounds were applied. The project reached nearly 1070 male and female adolescents and youth in schools aged 12 - 24 year from 7 primary schools, and 2 secondary and high schools. In quantitative approach we used secondary data from Measure TDHS (Tanzania Demographics and Health Survey) of 2011/2012 that collected data on varieties of population issues including attitudes, knowledge towards HIV/AIDS, contraception usage and sexual practices.

**Results:** From auxiliary data shows that, an average of 16.8 years of girls start to engage in sexual intercourse with minimum age of 8 years. For recent sexual activity we have almost 70% had sex in the last 4 weeks, while remaining percentages 11% and 17% are not active because they are prepubertal and not postpubertal respectively. Percentage using condoms as means of contraceptive is only 1.8% which means exposure to STIs and HIV/AIDS is actually high.

**Conclusions:** HIV prevalence in Tanzania is about 5%. The prevalence is marginally higher among women in the reproductive age and even higher for adolescents and youths living in urban areas like Dar Es Salaam. Many have been tempted to lower infections yet there are nearly higher percentages of new infections. We propose measures like parent engagement, peer education (educate both boys and girls) to lower HIV infection rates.

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**THPE116**

**VOLUNTARY MEDICAL MALE CIRCUMCISION AMONG ADOLESCENTS: A MISSED OPPORTUNITY FOR BEHAVIORAL INTERVENTION?**

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**Background:** Voluntary medical male circumcision (VMMC) is one of the first ventures for adolescent boys in many African countries to interact with the health care system. This study explored the messages and approaches used during VMMC counseling for adolescents and whether such strategies maximize opportunities for broader HIV prevention, adolescent sexual and reproductive health, and linkages to HIV care.

**Methods:** Ninety-two semi-structured qualitative interviews were conducted with VMMC clients ages 10-19 years in South Africa, Tanzania, and Zimbabwe 6-8 weeks post-procedure. An additional 55 interviews were conducted with VMMC counselors. Discussions explored HIV prevention counseling, HIV testing services received before VMMC, and counselors’ approaches to HIV testing and disclosure of test results. Audio recordings were transcribed, translated into English, and coded by two independent coders using a thematic approach. Coders discussed discrepancies until at least 85% agreement was reached. Coded text was then assessed for themes.

**Results:** Male adolescents stated that limited information was provided to them about HIV prevention and care. While VMMC protocols require opt-out HIV testing, some adolescents discussed having been tested without knowing the purpose, not receiving their test results, nor completely understanding the link between VMMC and HIV. Most boys interviewed assumed they had tested negative because they were subsequently circumcised. Identified themes among counselors included spending little time talking about HIV prevention with male adolescents. Counselors rarely discussed masturbation and expressed frustration over their lack of skills in counseling or disclosing HIV positive results to adolescents. Counselor discussions also revealed inconsistencies with regards to working with HIV infected adolescents, with some providers not wanting to circumcise HIV-positive adolescents, whilst others proceeding with the VMMC to avert stigmatization.

**Conclusions:** VMMC for adolescents appears to be a missed opportunity to engage in further HIV prevention and care. Counselors require training in counseling HIV positive adolescents, how to link them to care, and whether to offer VMMC to these clients. Counselors could spend more time focused on delivering prevention messages, further limiting the spread of HIV as adolescent males become sexually active.

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**THPE117**

**FEASIBILITY AND ACCEPTABILITY OF THE "OUR FAMILY OUR FUTURE" INTERVENTION: A PILOT STUDY OF A FAMILY-BASED INTERVENTION FOR PREVENTING ADOLESCENT HIV RISK BEHAVIOR**

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**Background:** Family-based interventions are developmentally appropriate for early adolescents (13-15 years), a key population for HIV prevention. Yet, few empirically supported family-based interventions exist in generalized epidemic settings and specifically address prevention needs linked to family mental distress. We tested acceptability and feasibility of “Our Family Our Future”, an intervention integrating HIV prevention-mental health resilience, and adapted to South Africa from existing best-evidence models for HIV prevention and mental health resilience.

**Methods:** Nearly 800 families were screened for eligibility through systematic house-to-house sampling in Khayelitsha, South Africa from 2015-2016 and included if adolescents were 13-15 years, and if adolescent-parent dyads scored 9-15 on the Centers for Epidemiologic Studies Depression Scale. In total, N=76 dyads (152 participants) were randomized to intervention or wait-list control. Outcomes were collected via smartphones with audio computer-assisted self-interviewing at baseline, 1 month, and 3 months post-intervention. We examined feasibility through fidelity and retention. We examined acceptability through likek scales and open-ended responses. Descriptive data were analyzed in SPSS. Brown University and University of Cape Town provided ethical approvals.

**Results:** Adolescents were predominantly female (56%), Black African (100%), and an average of 14 years. Parents were predominantly female (96%), Black African (100%), and an average of 40 years. Adolescent lifetime sexual behavior included vaginal (17.6%) and anal sex (6.8%). Among sexually active adolescents, 24.6% tested for HIV, 35.6% had 5 or more partners, and 30.8% never used condoms. In the preceding three months, 30.8% consistently used condoms, and 30.0% had sexual partners of unknown HIV status. Feasibility and acceptability of a future trial is high. Facilitators were adherent (>95%) to the intervention protocol. All families (100%) were retained in ongoing post-intervention outcome assessments. All families (100%) were retained in ongoing post-intervention outcome assessments. All families (100%) were retained in ongoing post-intervention outcome assessments. All families (100%) were retained in ongoing post-intervention outcome assessments. All families (100%) were retained in ongoing post-intervention outcome assessments. All families (100%) were retained in ongoing post-intervention outcome assessments.
THPEC118
INTERACTION BIAS AMONG COUNSELORS WORKING WITH ADOLESCENT VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) CLIENTS IN SOUTH-SUBSAHARIAN AFRICA


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Background: Male adolescents represent the majority of individuals seeking voluntary medical male circumcision services (VMMC) services in sub-Saharan Africa. VMMC counselors interact with adolescents of various developmental stages and sexual experience. This study assessed the counseling adolescents receive and evaluated counselors’ knowledge and any biases when working with adolescent clients.

Methods: Qualitative interviews were conducted with 55 VMMC counselors and 92 adolescent clients in South Africa, Tanzania, and Zimbabwe. Interviews with counselors focused on describing the VMMC counseling process, their knowledge and training, and their views towards adolescent clients. Counselors’ views focused on the content of counseling received, their feelings during the sessions, and perceptions of counselors’ attitudes. Audio recordings were transcribed, translated into English, and thematically coded.

Results: Counselors expressed hesitation in communicating complete information—including HIV prevention, future sexual partners, and abstinence from sex or masturbation during the wound healing period—with younger males (< 15 years) and/or those assumed to have no sexual experience. Counselors also discussed the limitations of current guidelines and training in providing providers on how to engage in adolescent-appropriate counseling. Many counselors discussed not assessing adolescent clients’ sexual experience in order to gauge appropriate counseling content. Counselors reported giving full information, per VMMC protocols, to older adolescents since the counselors are not as hesitant in talking about sexual topics with them as compared with younger adolescents. Adolescents reported counseling content focused primarily on VMMC procedures or wound care. Finally, counselors discussed a preference for counseling younger adolescents with their parents/guardians to ensure adherence to wound care instructions. Some younger adolescents expressed reservation with this approach; they felt they would be unable to disclose personal experiences, including sexual ones, if parents/guardians are present.

Conclusions: VMMC counselors appear biased in how much information they communicate to younger versus older adolescent clients and sexually inexperienced versus experienced clients. VMMC may be more effective in providing complete HIV prevention and care messaging if all adolescents are given age and sexual experience-appropriate information during counseling sessions. Strengthening VMMC counselors’ interpersonal communication and counseling skills requires guidelines and training to fully address the range of adolescent client needs.

THPEC119
GENDERED PREVALENCE AND PRECITORS OF POTENTIALLY TRAUMATIC EXPERIENCES OF YOUNG MEN AND WOMEN IN SOWETO, SOUTH AFRICA

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Background: In many global settings, adolescents face high rates of HIV incidence, which has been linked with multiple exposures to traumatic experiences. We measured prevalence of exposure to potentially traumatic events (PTEs) by gender and assessed factors associated with experience among adolescents living in Soweto, South Africa.

Methods: We analysed baseline survey data from adolescents (aged 14-19) recruited from formal and informal households in Soweto. ‘Ever’ experience of trauma was assessed via an adapted version of the Traumatic Event Screening Inventory (TESI), including violent and non-violent experiences of trauma (19 items, study alpha=0.63). We measured number of traumatic events experienced, stratified by experience with violent and non-violent trauma, and by gender. Stratified by gender, multivariable logistic regression was used to assess independent correlates of high-PTEs experience (defined as ≥7 TESI-events, out of a possible score of 19).

Results: Of 830 participants (57.2% female; median ages: 17 [IQR:16-18 ]), 767 (92%) answered all TESI scale-items. Majority of participants (99.7%) experienced at least one PTE. Median number of PTEs was 7 (IQR:2,5-12), with no significant difference by gender (p=0.19). Young men reported more experiences and perpetration of violent PTEs (e.g. deliberately inflicted harm on someone), whereas females experienced more psychological PTEs (e.g. family member or someone close dying from HIV/AIDS).

Conclusions: High-PTE score was independently associated with high food insecurity among both adolescent men and women (aOR=2.63, 95%CI=1.35-5.12; aOR=2.57, 95%CI=1.55-4.26, respectively). For young men, high PTE score was independently associated with older age (aOR=1.39/year; 95%CI=1.20-1.62); living in Soweto for < 5 years versus ’since birth’ (aOR=2.84; 95%CI=1.17-6.30). Among young women, high PTE score was independently associated with probable depression (aOR=2.00, 95%CI=1.31-3.03; using CES-Depression score) and inconsistent condom use compared with no sexual experience (aOR=2.69, 95%CI=1.66-4.37).

Conclusions: Adolescents in Soweto experience a concerning number of PTEs. Exposure to PTEs were distributed along social and gendered axes. Among adolescent women, high PTE exposure was associated with mental health and HIV-related risks. Prevention science among adolescents in South Africa should consider structural and community-level interventions to reduce and address exposure to PTEs in young people as well as improve access to supportive mental health services post-exposure to PTEs.

THPEC120
ASSOCIATIONS BETWEEN SELF-ESTEEM, HIV-LITERACY AND SEXUAL BEHAVIOUR: A CAUSAL PATHWAY FOR HIV PREVENTION AMONG ADOLESCENT GIRLS IN KWAZULU-NATAL, SOUTH AFRICA

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Background: Teenage pregnancies trap adolescent girls in poverty and increased risks of HIV infection due to discontinued education and exploitative relationships with unsafe sexual behavior. The intervention ‘Star for Life’ reported evidence of a 30% lower pregnancy rate in its programme schools in the UMkhanyakude district in KwaZulu-Natal (KZN) in 2013. There is little research on HIV prevention interventions that can identify behaviour change effects in individual-level data. The aim of this study was to assess a plausible causal pathway from ‘self-esteem’ through ‘HIV literacy’ to ‘sexual behaviours’ among adolescent girls.

Methods: Twenty-five percent of students (n=5556, 53% female) from 43 intervention schools in South Africa and Namibia provided self-reported data through a questionnaire in 2015. A series of correlation analyses (Pearson’s r) were conducted with control for relevant structural and demographic variables. Comparisons were made depending on students’ level of active engagement with the programme - a ‘dose’ effect. Indicators of ‘sexual behaviour’ included ‘sexually active’, ‘condom use’, ‘multiple concurrent partners’ and ‘pregnancy’.

Results: The results were valid for all female students, but were particularly strong among female students in KwaZulu-Natal. For these girls, the ‘dose’ of the programme was positively correlated with their level of self-esteem (r=0.21**), which was linked to their level of HIV literacy (r=0.31**). Students’ self-esteem and HIV literacy were both significantly associated with safe sexual behaviours. The intervention appears to empower also the girls who live with extreme poverty.

Conclusions: The research found that the notion of self-esteem was associated with HIV literacy and sexual behaviours in ways that strengthen our understanding of how to affect behaviour change for HIV prevention and a reduction in teenage pregnancies. These findings will assist efforts to formulate a best-practice model for interventions to empower individual adolescent girls and reach collective aspirational targets for HIV prevention within this key population.
Background: Integration of HIV prevention services into reproductive health care support and treatment programs can potentially increase the uptake of FP, dual protection and reduce vertical transmission of HIV. Pride Community Health Organization supports Adolescent Sexual Reproductive Health Services targeting young people in the age group of 10 - 19 and 20 - 24 years. An average of 65 young people each month access information and services in the “One Stop Shop” including peer Supporter Program for Adolescents and Children living with HIV to improve HIV treatment and care outcomes for peers.

Methods: To improve access to, and uptake of Adolescent Sexual Reproductive Health Services, HIV counselling and Testing, FP and referrals were integrated in the counselling process at the Youth Friendly Corner site with specific emphasis on dual protection and condom use. Peer Educators in the age group of 10 - 19 and 10 - 24 girls and boys implemented sexual and reproductive health programs at Estates Clinic which did not have youth friendly services at that time. A room was secured to be used for provision of Adolescent - Youth Friendly sexual and reproductive health services at Estates Clinic. Peer educators disseminate HIV and AIDS information and refer young people for services to the ART and TB nurses who are permanently located within the “One Stop Shop.” Peer educators also conduct community awareness meetings in schools, bars and taverns.

Results: From January 2015 to December, 2015: 889 adolescents received HIV and AIDS information and 441 were tested for HIV, and 40 clients were referred for ART services. A total of 47 were also referred for STI screening, and 101 were referred for Voluntary Medical Male Circumcision. A total of 17, 238 condoms were distributed to young people in the age group of 10 - 19 and 20 - 24 years. An average of 65 young people each month access information and services in the “One Stop Shop”.

Conclusions: “One Stop Shop” provides a friendly space where young people can access information and increases uptake to ASRH services. Adolescents peer educators create demand for adherence and retention support, mitigation of stigma and discrimination. Health care providers work is easier and waiting periods reduced. Adolescents specific interventions increase access SRH and HIV services.

Background: AIDS is the leading cause of death among youth within sub-Saharan Africa, with South Africa reporting more new cases of HIV than any other country in the world. There are significant gender inequities in HIV infection within South Africa and young women aged 15-24 have HIV rates that are three times higher than their male counterparts. It is clear that: a) young South African women are more socio-behavioral and structural, and biological factors contribute to the African epidemic, there has been increasing attention given to sexual liaisons between older men and younger women, which have been linked to greater risk of HIV acquisition. This study aims to: 1) examine the association between partner age discordance and young South African women’s sexual behavior; and 2) to identify socio-behavioral differences between those reporting age-discordant partnerships (partner ≥ 5 years older) compared with those reporting age-concordant partnerships (all others).

Methods: We used generalized estimating equations to analyze responses from 679 sexually-experienced females aged 13-20 years from rural Mqumbane province participating in baseline data collection for an intervention trial.

Results: Partner age discordance was associated with greater odds of reporting both more frequent sex (adjusted odd ratio [aOR] = 1.77, 95% CI 1.20-2.60) and having a partner with concurrent partnerships (aOR = 1.77, 95% CI 1.22-2.57). Regarding socio-behavioral differences, young women reporting age-discordant partnerships were more likely to report: casual partnerships (aOR 1.50, 95% CI 1.06-2.13), hav-
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TH6E125

USE OF COMMUNITY LEVEL EVIDENCE INFORMED BEHAVIORAL INTERVENTIONS (EBIs) AS A STRATEGY FOR HIV RISK-REDUCTION IN YOUNG PEOPLE: RESULTS FROM COUNTIES SERVED BY APHIA PLUS KMALI IN KENYA

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Background: According to KAS 2007 and KDHS 2008-09 surveys, young women aged 15-24 years are 4 times more likely to be HIV-infected than men (6.1% compared to 1.5% in 2008). The project has implemented “Sister to sister” within community settings. The project is implementing evidence informed Behavioural Interventions (EBIs) such as Sister to Sister and Shuga in tertiary institutions, churches, MNCH clinics, youth out of school groups and youth friendly centers as a strategy to reduce HIV infection. Sister to Sister provides culturally sensitive health information to empower and educate women preferably clinic settings; help women understand the behaviors that put them at risk of HIV and other STDs and enhance their knowledge, beliefs, motivation, confidence, and skills. Shuga is an innovative partnership resulting in a mass multimedia behavior change communication initiative targeting youth aged 15 to 24 with HIV prevention messages and linking them to vital services.

Description: The project has implemented “Sister to sister” within community setting rather than clinical setting. 64 facilitators aged 15-24 years were trained in September 2014 using the sister to sister curriculum. The facilitators had a target of reaching 5 young women aged 15 to 24 years daily. Videos were used during one on one session to build women’s self-efficacy and condom efficacy to empower them on safe sex. Shuga being friendly and serving both education and entertainment needs of the youngsters and Sister to sister intervention implemented within community setting rather than clinical setting are feasible, cheap approach which can be scaled up to reach the vulnerable groups.

Conclusions/Next steps: We will continue to develop strategies to decrease disparities based on racial, transgender, and insurance status when accessing PrEP for patients at risk of acquiring HIV.

TH6E126

CHURCH-BASED MARRIAGE COUNSELLORS KNOWLEDGE, PERCEPTION AND PRACTICES RELATING TO HIV COUNSELLING AND TESTING FOR INTENDING COUPLES IN IBADAN SOUTH-WEST LOCAL GOVERNMENT AREA, NIGERIA

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Background: This study investigated the knowledge, perception and practices concerning HCT among Church-based Marriage Counsellors (CMC) in Ibadan South-West Local Government Area (LGA), Nigeria.

Methods: The cross-sectional study involved the use of a three-stage random sampling technique to select 660 CMC from Christian Association of Nigeria districts, denominational categories and parishes in the LGA. A pre-tested semi-structured questionnaire which included 34-point HIV/AIDS and 13-point HCT knowledge scales as well as questions on HCT related perception and practices, was used for data collection. Descriptive statistics, 1-test and F-test were used to analyse the data at p<0.05. Results: Respondents’ age was 45.0±8.6 years, 60.3% were male, 84.1% had tertiary education and 65.0% performed only CMC roles; 35.0% were pastors as well. The HIV/AIDS and HCT knowledge scores were 25.6±3.3 and 9.3±2.6, respectively. Majority (84.7%) perceived mandatory HCT as morally justifiable while 88.6% opined that churches should make HCT compulsory for intending Couples (IC). Majority (88%) stated that pre-marriage courses for IC with infused HIV related topics existed in their churches. About two-third (63.2%) revealed that medical investigations which IC are advised to undergo include HCT. However, 50.0%, stated that a positive HIV test is never used to prevent marriage solemnisation. A combination of prayer and counselling (74.9%) topped the list of forms of support for IC with sero-positive status. Mean knowledge score of CMC without pastoral roles (9.2±2.4) was not significantly different from the score (9.4±2.7) obtained by those with pastoral duties. Knowledge scores of females and males on HCT were 9.4±2.6 and 9.2±2.6, respectively with no significant difference. Knowledge scores on HCT by respondents with primary, secondary and tertiary education were 6.8±4.4, 8.2±3.9 and 9.5±2.4 with a significant difference.

Conclusions: There are HIV related educational opportunities for intending couples in many of the churches. However, inadequate knowledge and misperception of HIV counseling and testing existed among the counsellors. Training programmes aimed at upgrading respondents’ knowledge on HIV counseling and testing, implications of a sero-positive test result for intending couples and the importance of accessing treatment once a positive test is established are recommended.

TH6E127

ASSOCIATION OF EARLY SEX DEBUT AND SUBSTANCE USE WITH UNPROTECTED SEX AMONG YOUNG PEOPLE IN THREE COUNTRIES OF EASTERN EUROPE

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Background: In Eastern Europe HIV presents a significant threat for young people. There is an increasing of the role of sexual route of HIV transmission in the region. In this study we aimed to describe prevalence and correlates of sexual debut at early age among young people.

Methods: Data was collected by group-administered questionnaires in three countries: Russia (Saint Petersburg and Kaliningrad), Latvia (Riga) and Warsaw (Poland). A total of 1596 participants aged 15 - 24 were recruited in vocational schools, dependency treatment clinic, social support youth and family centers and sports centers. The study locations were selected to represent youth at greater risk of getting HIV, by the opinion of at least three local experts. Logistic regression models were used to find significant correlates of sexual debut before the age of 15.

Results: Early sex debut was twice more prevalent among males than females (17.6% vs. 8.2%; p<0.001). In logistic regression sex debut before the age of 15 was associated with being male (AOR=2.08, 95%CI=1.46 - 2.98), living in St. Petersburg (AOR=2.25, 95%CI=1.41 - 3.60), being brought up at an orphanage (AOR=1.97, 95%CI=1.21 - 3.21), drug use prior to sexual debut (AOR=3.38, 95%CI=2.11 - 5.40) and early age of first alcohol intake (AOR=1.56, 95%CI=1.08 - 2.25). Early sex debut had more chances to be unprotected (AOR=2.23, 95%CI=1.52 - 3.27) and happen under influence of drugs (AOR = 3.18, 95%CI=1.49 - 6.79). Early sex debut in this study was independently associated with non-consistent condom use during last 12 months (AOR=2.15, 95%CI=1.38 - 3.36).
**THPEC128**

THE IMPACT OF THE ZAZI MASS MEDIA CAMPAIGN ON CONTRACEPTIVE UPTAKE AND HIV PREVENTION BEHAVIOUR AMONG 15-24 YEAR OLD YOUNG WOMEN IN SOUTH AFRICA

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**Background:** Young women aged 15-24 years old are considered among the most vulnerable groups at risk of HIV in South Africa and elsewhere. A campaign known as Zazi was launched in May 2012 with the aim of empowering young women with knowledge and skills to “Zazi know themselves” and built their self-esteem to reduce HIV risk and increase uptake of contraception. An advertisement focused on promoting dual protection through increased dialogue and support by older women to younger women was broadcast on national television.

**Methods:** Between September and October 2015, a nationally representative survey of 3 763 men and women aged 15 years and over was conducted as part of the IPSOS Khayadus survey. Demographic, knowledge, attitudinal and behavioural outcomes (KAB), contraceptive use and exposure to the Zazi campaign was collected through face-to-face computer assisted personal interview (CAPI). The association between the KAB outcomes and exposure to the campaign was analysed for a subset of men young women aged 15-24 (n=421), who are the primary audience of the campaign.

**Results:** 23% of young women reported condom use at last sex. Of these, 68% were at the highest level of exposure to the campaign, compared to 11.5% at no exposure. Use of contraceptives in the past 12 months was 26.9% (of whom 48.3% were in the high exposure vs. 14% with some exposure and 22.5% with no exposure). Average contraceptive plus condom use (dual contraceptive) in the past 12 months was 25%. Of these, 74% were in the highest exposure vs. 4.3% in the no exposure category. Reported discussions about contraceptives were as follows: 32.3% talked to spouse/partner, 18% grandmother, 16.2% sister and 13.3% mother. Ninety-eight percent of those using contraceptives, access them from government facilities and reported receiving ‘excellent’ or ‘good’ services. Ninety-eight percent of those using contraceptives, access them from government facilities and reported receiving ‘excellent’ or ‘good’ services.

**Conclusions:** Zazi campaign plays a critical role in generating demand for HIV prevention and contraceptive (dual protection) among young women as well as promoting discussions with partners/family. With health services reported as mainly ‘excellent’ or ‘good’, there is an opportunity to engage with more young women to improve uptake of these services.

**THPEC129**

BARRIERS AND OPPORTUNITIES FOR PROMOTING CONDOM USE AMONGST YOUNG MEN IN SOUTH AFRICA

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**Background:** The 2012 South African National HIV Prevalence, Incidence and Behaviour Survey, found declines in condom use in almost all age groups and low general knowledge of transmission and risky behaviour (Simbai et al, 2012). This study’s objectives were to explore current condom practices amongst males and females to understand patterns of condom use, and to identify barriers and enablers of condom use. Findings will inform Brothers for Life ongoing communication campaigns to promote condom use.

**Methods:** A qualitative approach was taken to the research. Fifteen focus groups and eight in-depth interviews were conducted with 123 participants. Participants were young people aged 18-24 years. Urban, peri-urban and rural localities from KwaZulu-Natal, Gauteng, Mpumalanga and Free State.

**Results:** The study found high levels of self-reported risky sexual behavior, such as not using condoms once trust and love develops, removing condoms mid sexual intercourse and engaging in coitus interruptus during unprotected sex. Condom use was associated with being ‘sick’ and age disparate relationships were characterized by low condom use. Availability of antiretroviral treatment contributed to views to HIV infection is less ‘scary’ and perceptions that non-condom use is less risky.

**Conclusions:** Significant factors emerged that encourage condom use: acceptance of condoms to prevent pregnancy; openness by male partners to use condoms if prompted by their female partners, and both males and females supporting a shifting gender norm that normalizes women’s proactive behaviour with condoms. Other factors supporting condom use included the desire to protect the main partner from diseases, and knowledge of HIV status. Medical male circumcision was identified seen as an opportunity to further promote and strengthen condom messaging.

**THPEC130**

DOES HIV PEER EDUCATION LEAD TO PROMISING OUTCOMES AMONG OUT-OF-SCHOOL YOUTH IN THE NIGER DELTA? AN EVALUATION OF A PROGRAMME IN FOUR LOGAS IN RIVERS STATE, NIGERIA

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**Background:** HIV and AIDS are among the most complex health problems in the world. Young people are at a high risk of infections and are, therefore, in need of targeted prevention. HIV peer education among out-of-school youth is an effective way to prevent the spread of HIV/AIDS infections among youth.

**Methods:** Youth PRO-FILE, a non-governmental organization (NGO) had identified and trained 85 Peer Educators who in turn, recruited 5,235 out-of-school youth aged 15-24 years in four Local Government Areas in Rivers State by snowballing over 12 months in batches/cohorts of 13-15 in 2014/2015. The FMoH National Peer Education Curriculum of six modules on HIV prevention messages was used. Each session lasted 90 minutes and was held 1-week apart in the communities. Supervisors from the NGO monitored the peer sessions. Using a quasi-experimental design, pre-/post-intervention assessments (without a control group) were conducted on behaviour intent, attitudinal change and, knowledge gained. Data was collected using a facilitated, self-administered semi-structured questionnaire.

**Results:** Findings are reported on a total of 424 matched pairs of completed pre-/post-intervention questionnaires. The mean age was 19.5±2.7 years. About half (54.25%) were males and 45.75% were females (χ2=1.87, P-value=0.171). Reported sexual activity rate was 73.4% (n=311) before and 74.5% (n=316) after (χ2=0.15, P-value=0.695). Intent to use contraception at next sexual contact increased from 58.49% to 67.92% (χ2=8.11, P-value=0.004), while those reporting that they would definitely not be pressured into having sex changed from 41.98% to 72.64% (χ2=81.46, P-value=0.001). Positive attitude toward HIV issues changed from 26.65% to 96.93% (χ2=210.59, P-value=0.000). Responses to each of the knowledge questions were given numeric scores on an ordinal scale; 60.38% had good knowledge at pre-intervention, and increased to 100% post-intervention (P-value=0.000).

**Conclusions:** This evaluation showed that HIV Peer Education succeeded in improving attitudes towards people living with HIV/AIDS, and showed potential to lead to change in sexual behaviour among out-of-school youths. Government and international agencies should intensify and scale up HIV peer education programmes in more areas, to increase the effects of providing opportunities to equip vulnerable youth with accurate information for informed decision-making.

**THPEC131**

UNDERSTANDING YOUNG MEN’S PERCEPTIONS OF THEIR ROLE IN TEENAGE PREGNANCY AND HIV/STI TRANSMISSION

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**Background:** South Africa has made major strides in reducing prevalence of HIV. However the HIV incidence among young women (113 000 in women aged 15-24) and persisting teenage pregnancies call for a renewed strategy and the involvement of young men. This study explores the perceptions of young men and their role in safer sex strategies.
Methods: The sample was drawn using non-probability snowballing method. A total of 75 young men aged 18-25 across three provinces (Limpopo, Western Cape, and Gauteng) in South Africa were interviewed and completed a survey. A mixed method approach was adopted. In addition to analysing focus group discussions, univariate and bivariate analysis were used to test for associations.

Results: This study has shown the persistent nature of sexual risk taking among young men in the form of multiple sexual relations, trends to impregnate older women to prove manhood, and inconsistent use of condoms. Approximately 44% of participants reported having had one sexual partner in the last 12 months and 50.7% of the participants indicated that they always use contraceptives. Results indicate that family members are a good source of SHR information and schools are a poor source. The focus group results reveal a missing link—despite a high level of knowledge (92%) about contraceptives, inconsistent use and sexual risk taking is persistent among young men, who believe that the responsibility for using contraceptives lies with women. The results also revealed that participants who discussed contraceptive use with their partners were significantly older (20: IQR: 19-22) than those who do not (19: IQR: 18-20) (p-value=0.003). This puts both young male and females at risk of unplanned pregnancies and contracting HIV/STIs.

Conclusions: This study has indicated that overall young men in this sample are aware of contraceptive use, the risk of STIs, and the responsibilities that come with impregnating a girl. However there is a gap in the application of the knowledge. There is a need to focus on younger males in future studies to distinguish the characteristics that promote consistent use of contraceptives and safer sexual practices.

PREVENTION FOR PEOPLE WHO USE DRUGS, INCLUDING HARM REDUCTION

THPEC133
PATTERNS OF HARM REDUCTION SERVICE UTILIZATION AND HIV INCIDENCE AMONG PEOPLE WHO INJECT DRUGS (PWID) IN UKRAINE: A TWO-PART LATENT PROFILE ANALYSIS

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Background: We describe program utilization patterns within the large network of National Alliance for Public Health (SANF) in Ukraine of harm reduction NGOs and determine the relationship between utilization patterns and HIV incidence while taking into account oblast-level HIV incidence, ARV coverage, and syringe coverage.

Methods: Data for these analyses were extracted from APH-Ukraine’s SyrEx database (Jan 2011-Sep 2014), with a final sample of 327,758 clients. We conducted a latent profile analysis on the mean number of condoms, syringes, and services (i.e., testing, information and counseling sessions) PWIDs received monthly over the entire period. For HIV-seronegative clients, we used data from the most recent year. For those who seroconverted to HIV during the study period, we used data from the year prior to seroconversion. Multivariable Cox proportional hazards models were used to determine the relationships between HIV seroconversion and utilization class membership.

Results: In the final 4-class model, 34.0% of the participants are in class 1, who on average received 0.1 HIV tests, 1.3 syringes, 0.6 condom and minimal counseling and information sessions per month; 33.6% of participants are in class 2, who received 8.6 syringes, 3.2 condoms, 0.5 HIV tests, and counseling and information sessions; in class 3, 19.1% of participants received 1 HIV test, 11.9 syringes, 4.3 condoms, and 0.7 information and counseling sessions; 13.3% of participants in class 4 received approximately 1 HIV test, 26.1 syringes, 10.3 condoms and 1.9 information and 1.9 counseling sessions. In multivariable Cox proportional hazards regression models with HIV seroconversion as the outcome and latent class membership as the main exposure, class 4 clients had significantly decreased risk for HIV seroconversion as compared to those in class 1, after controlling for oblast-level characteristics.

Conclusions: Recent analyses of local data suggest that the Ukrainian HIV epidemic is slowing. However, injection drug use continues to be a major cause of HIV transmission. In light of the uncertain harm reduction funding environment in Ukraine, it is important to understand the role of harm reduction in HIV incidence among PWID. These analyses suggest that receiving more syringes and condoms was associated with decreased risk of HIV acquisition.

THPEC134
HIGH-FUNCTIONAL PAIN INTERFERENCE IS ASSOCIATED WITH ACTIVE INJECTION DRUG USE AMONG A COHORT OF HIV-POSITIVE PEOPLE WHO USE ILlicit DRUGS IN VANCOUVER, CANADA

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Background: Despite the high prevalence of pain among people living with HIV/AIDS (PLHWA) who use illicit drugs remains poorly understood. This study examined the relationships between functional pain interference (FPI) and illicit drug use behaviors, health service utilization, and other clinical and socio-demographic characteristics in a community-recruited cohort of PLHWA who use illicit drugs in Vancouver, Canada.

Methods: Bivariate and multivariable logistic regression was used to evaluate factors associated with high FPI among HIV-seropositive participants reporting major persistent pain in the AIDS Care Cohort to Evaluate Access to Survival Services (ACCESS). High FPI (>5 versus <5) was ascertained using average interference scores from the Brief Pain Inventory.

Results: In total, 313 participants were eligible for this analysis, of whom 32% were female. The median age was 51 years (interquartile range: 45-55). 126 (40%) participants had high FPI. Compared to participants with low FPI, there were significantly higher proportions (p<0.05) of current physical disability, active injection drug use, perceived undertreated pain, recent hospitalization, recent denial of prescription.
self-interview (CASI) method. Linear mixed effects regression models were per-
tal of 418 service providers participated in an assessment using Computer-Assisted
Methods: (MMT).

Background: The Semel Institute for Neuroscience and Human Behavior, Los Angeles, United States is a comprehensive intervention program.

In the Southern China, its HIV epidemic was primarily driven by injection drug use (IDU).

For all the identified cases, they were followed for routine medical education and
HIV screening was administered to all the detained drug users and those involved in
needle change clinics were implemented to reduce needle sharing in the community.

Interaction between providers and clients in methadone maintenance

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A high prevalence of elevated FPI was observed in this cohort of PLWHA, which was associated with higher levels of acute health service utilization, illicit drug use behaviors, undertreated pain, and self-managed pain. The inde-
pendent association between high FPI and active injection drug use is particularly
concerning given the risks for HIV transmission, morbidity and mortality, and use of high-cost acute care services related to this high-risk behavior. These findings illustrate the need for increased efforts to improve function, quality of life, and pain management among PLWHA.

THPEC135

COMPREHENSIVE INTERVENTION PROGRAM HAS EFFECTIVELY DECREASED THE INCIDENCE RATE OF HIV AMONG INJECTION DRUG USERS IN PAST 10 YEARS: A CASE FROM GUANGDONG, CHINA

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Background: Zhongshan, a city located in the Pearl River Delta region, Guangdong, Southern China, its HIV epidemic was primarily driven by injection drug use (IDU), and it was also the earliest city which identified the HIV epidemic among IDU. The first local HIV case transmitted by IDU was identified in 1998. From 1998 to 2006, over 1000 cases infected by IDU were identified. To control the HIV epidemic in IDU, comprehensive intervention program was gradually implemented since 2007. HIV incidence rate was estimated to accurately evaluate the effectiveness of the comprehensive intervention program.

Description: Since 2006, in those detention places, health education about HIV knowledge and anti discrimination was administered to all the detained drug users and police officers, and the released drug users were followed for medical service and assistance. At the same time, 2 methadone maintenance treatment clinics and 7 needle change clinics were implemented to reduce needle sharing in the community.

Lessons learned: The surveillance system showed that the prevalence rate among IDU has declined from 1.4% in 2004 to 4.9% in 2014, and the annual reported number of cases from 161 in 2004 to 14 in 2014. According to the estimates from the Spectrum/EPP model, the HIV incidence rate declined from 1.25% in 2001 to 0.23% in 2014. During 2010 to 2014, among 1971 repeat HIV testers in the open cohort based on the detained drug users, 4473 person-years were followed with 4 of them became HIV-seroconversion, and the HIV-incidence was 0.09 (95% CI: 0.01 - 0.18) per 100 person-years.

Conclusions/Next steps: This comprehensive intervention program effectively decreased the HIV incidence among injection drug users in Zhongshan city, Guangdong China.

THPEC136

INTERACTION BETWEEN PROVIDERS AND CLIENTS IN METHADONE MAINTENANCE CLINICS IN CHINA

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Background: Provider-client interaction is an integral of clinical practice and central to the delivery of high quality medical care. This paper examines factors related to the provider-client interaction in the context of methadone maintenance treatment (MMT).

Methods: Data were collected from 68 MMT clinics in five provinces of China. A total of 418 service providers participated in an assessment using Computer-Assisted self-interview (CASI) method. Linear mixed effects regression models were per-
formed to identify factors associated with provider-clients interaction measures including minutes spent with each client per day.

Results: It was observed that negative attitude towards drug users was associated with lower level of provider-client interaction and less time spent with each client. Other factors associated with lower level of interaction included being female, being younger, being a nurse versus a doctor and another type of provider, and fewer years in medical field. There was a trend towards higher provider-client interaction being associated with provider reported job satisfaction.

Conclusions: The findings of this study call for a need to address provider negative attitudes that can impact provider-client interaction and the effectiveness of MMT.

Funding source: National Institute on Drug Abuse/NHL (R01DA033130).

THPEC137

EXPOSURE TO VARIOUS COMBINATIONS OF HARM REDUCTION STRATEGIES IN RELATION TO HIV AND HCV INCIDENCES AMONG PWID IN MONTREAL, CANADA

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Background: While a decrease in HIV incidence was attributed to harm reduction (HR) approaches among people who inject drugs (PWID), HCV transmission has re-
mained high in Montreal. A comprehensive HR approach is recommended to control HCV transmission among PWID. Evidence of its effectiveness for HCV prevention is, however, not well established. The objectives were to estimate HIV and HCV inci-
dences (primary and reinfection), and to examine the association between HIV, HCV and exposure to various combinations of HR strategies (injection material coverage (IMC) and Opioid Agonist therapy (OAT)).

Exposure to various combinations of harm reduction strategies in relation to HIV and HCV incidences among PWID in Montreal, Canada

Overall, 1451 PWID were included in analyses (83% males; mean age 38 [SD 10.0]). Results are summarised in the following table:

<table>
<thead>
<tr>
<th>HIV (N participants=839)</th>
<th>HCV Primary Infection (N participants=411)</th>
<th>HCV Reinfaction (N participants=320)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of events/total years follow-up time</td>
<td>19/3308</td>
<td>121/999</td>
</tr>
<tr>
<td>Incidence per 100 p-years (95% CI)</td>
<td>0.6 (0.4, 0.9)</td>
<td>17.3 (14.4, 20.6)</td>
</tr>
</tbody>
</table>

Incidence and Hazards Ratios according to Harm Reduction exposure*

<table>
<thead>
<tr>
<th>Incidence (95% CI)</th>
<th>Incidence (95% CI) / aHR adjusted for age and gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal HR coverage</td>
<td>0.3 (0.1, 1.2)</td>
</tr>
<tr>
<td>Full HR coverage</td>
<td>24.6 (15.7, 36.9) / aHR: 1.0 (ref category)</td>
</tr>
<tr>
<td>Partial HR coverage</td>
<td>0.8 (0.4, 1.9)</td>
</tr>
<tr>
<td>Full HR coverage</td>
<td>22.3 (18.0, 27.4) / aHR: 1.02 (0.6, 1.7)</td>
</tr>
<tr>
<td>Minimal HR coverage</td>
<td>7.0 (4.8, 9.9) / aHR: 0.69 (0.3, 1.8)</td>
</tr>
<tr>
<td>Full HR coverage</td>
<td>0.0 (no event)</td>
</tr>
<tr>
<td>Minimal HR coverage</td>
<td>1.7 (0.4, 5.5) / aHR: 0.16 (0.1, 0.7)</td>
</tr>
</tbody>
</table>

*Including only visits where participants were eligible for HR strategies (excluding visits of participants who stopped injecting).

HIV and HCV Incidence rates and Hazard ratios of HCV according to Harm Reduction exposure*

Conclusions: HIV incidence rate is low in Montreal, attesting to the positive effect of available HR strategies. HIV primary and reinfection rates remain, however, high. Relative to men who are not HIV infected, the groups achieved 64% and 94% reductions of infection rates for primary and reinfection, respectively. Our data suggests that enhancing injection material coverage and OAT programs using adequate dosing treatments is essential to better control HCV.
Needle sharing practices are common and HIV risk perceptions are low. Although HIV in our sample was limited, HCV infection was more prevalent. Interventions to reduce needle risks and increase HIV/HCV testing are needed to prevent transmission among young adult PWID.

THPEC141
END OF GLOBAL FUND SUPPORT AND ITS ASSOCIATION WITH RECEPTIVE NEEDLE SHARING AND HIV INCIDENCE AMONG PEOPLE WHO INJECT DRUGS (PWID) IN TIJUANA, MEXICO

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Background: During 2011-2013, >2.5 million syringes were exchanged in Tijuana, a Mexico-U.S. border city, through federal, state and Global Fund (GF) support. GF support ended in December 2013, when Mexico became designated as an upper-middle income country, and since then, syringe access has dramatically decreased. We studied trends in receptive needle-sharing, and risk factors associated with HIV serconversion among PWID in Tijuana.

Methods: Since 2011, 734 PWID in Tijuana were recruited through street outreach and undergo semi-annual interviews and HIV testing. Mixed effects logistic regression was used to estimate the mean log odds of receptive needle-sharing during eighteen 3 month consecutive calendar time periods, with the first three corresponding to pre-GF (Mar 29, 2011 to Jan 13, 2012), next nine during GF (Jan 14, 2012 to Mar 28, 2014), and last six post-GF (Mar 29, 2014 to Sep 28, 2015). Segmented regression was then used to predict trends in receptive needle-sharing within periods and from one GF period to the next. Cox regression was used to identify predictors of HIV seroconversion through Sept 2015.

Results: As shown in the Figure, during the pre-GF period, there was a 60% increase in mean log odds of receptive needle-sharing (p<0.01). During the GF period, there was a 71% decrease in mean log odds of receptive needle-sharing (p<0.005). During the post-GF period, there was a marginally significant, 15% increase in mean log odds of receptive needle-sharing (p=0.07). Factors independently associated with HIV serconversion were reporting difficulty obtaining syringes (AdjHR:5.30; 95%CI:1.85-9.65) and methamphetamine as the first drug injected (AdjHR:3.46;95%CI:1.24-5.64), purchasing drugs in pre-loaded syringes (AdjHR:2.93;95%CI:1.04-4.11), ever experiencing forced sex (AdjHR:5.30; 95%CI:1.85-9.65) and methamphetamine as the first drug injected (AdjHR:3.36;95%CI:1.01-10.33).

Conclusions: Since Global Fund support ended in Mexico, limited syringe access is leading PWID to return to injecting behaviors that are fueling HIV transmission. Sustaining sterile syringe coverage in limited resource settings remains challenging.

THPEC138
MAPPING PEER SOCIAL NETWORKS AND HIV RISK AMONG WOMEN WHO INJECT DRUGS RECRUITED USING RESPONDENT DRIVEN SAMPLING IN THREE INDONESIAN CITIES

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Background: Women who inject drugs in Indonesia remain a hard-to-reach population by standard outreach methods employing professional outreach workers. National surveillance data on drug injecting and HIV prevalence is rarely gender disaggregated, and when it is, samples of women are often too small to draw any solid conclusions. Perempuan Bersuara, a quantitative research study investigating sexual and injecting HIV risk among women who inject drugs conducted by Oxford University in collaboration with Atma Jaya University and Indonesian Drug Users Network, mapped the social networks of this population.

Methods: 731 women were recruited from urban locations in Jakarta, West Java and Banten provinces using respondent driven sampling (RDS) between September 28, 2012 and March 14, 2013. Network data and characteristics including relationship and engagement in sex work, location, and age were recorded using a modified version of SyRex, a monitoring and evaluation database tool used by HIV prevention programmes. Social network mapping was conducted using NetDraw, an open source social network analysis and visualization software.

Results: Numbers of female injecting drug users recruited via peer networks significantly exceeded mapping estimates based on existing records of women reached by harm reduction services. The Greater Jakarta area, Bandung and Banten were home to approximately 60%, 30-35% and 5-10% respondents respectively. Mean age among participants was 33.1 years (standard deviation [SD]=5.3). Approximately 65.3% (N=477) of the sample had completed high school and almost half (N=324, 44.3%) were unemployed. 34.3% (N=250) of sexually-experienced study participants reported engaging in transactional sex. Self-reported HIV prevalence in the sample was 46.6% (N=341).

Conclusions: Peer networks can be effectively mobilised to improve access to traditionally “hard-to-reach” populations such as women who inject drugs. Existing outreach methods have limited reach among women who inject drugs in the Indonesian context. The Perempuan Bersuara study suggests that mobile RDS is an appropriate method for recruiting this population group. Further research is needed to determine how HIV prevention programmes in Indonesia can integrate social network mapping methods and peer driven outreach to attain broader reach and coverage.

THPEC140
OPiates INJECTION AMONG YOUNG ADULT MULTIDRUG USERS IN THE CLUB SCENE

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Background: The evolving and intertwined epidemics of heroin and prescription (Rx) opioid abuse in the US have most severely impacted young adults. We examined demographic, health and social characteristics of young adult participants in the nightclub scene in Miami, Florida who inject opiates (PWID).

Methods: Participants (n=498) were: enrolled in a behavioral intervention trial; ages 18 to 24; reported recent multidrug use; and endorsed regular attendance at large nightclubs. Data were collected using standardized health and social risk assessments, which included past 90 day Rx and illicit drug use history. Chi-square and t statistics were calculated to examine subgroup characteristics.

Results: Median age was 24; 45% were female; 64% Hispanic, 21% Black, 12% White. Recent opiate injection was reported by 11% (n=55) of the sample. PWID were more likely than others to be non-Hispanic White (x^2 = .001) and not non-Hispanic Black (p=.003); gender, age and education differences were not observed. Of PWID, 44 (80%) initiated opiate use with Rx opioids, 9 (18%) with heroin, and one was indeterminate. Heroin initiators reported much less education (8.7 vs 12.0 years; p=.008) than Rx opioid initiators. Both groups reported similar levels of current use of both Rx opioids and heroin; only 5 cases reported exclusive use of either opiate form. The primary route of access to Rx opioids was club- or street-based drug dealers. Of PWID, 82% believed their risk of becoming infected with HIV in the future was zero or unlikely. Needle sharing was reported by 47%. Five PWID reported infection with HCV, four cases of which were diagnosed in the prior 12 months. No cases of HIV were reported by PWID at baseline; there was one seroconversion at 12 month follow-up.

Conclusions: The large majority of young adult PWID in our sample initiated with Rx opioid abuse, and almost all PWID reported current use both Rx opioids and heroin.
Background: Low dead space syringes (LDSS) may dramatically reduce HIV transmission among people who inject drugs (PWID) if used consistently. The government of Vietnam has included LDSS promotion in its national harm reduction program. The most consistently available LDSS on the market is the 1ml B.Braun Omnican. While LDSS use has been reported as high in the south of Vietnam, utilization remains limited in the north where HIV transmission persists. We sought to identify factors that encourage and impede PWID use of LDSS to inform local manufacturing of LDSS products and demand generation.

Methods: We conducted a cross-sectional study from April-June 2015 with 1,296 PWID across six provinces. Sample size was calculated utilizing PWID size estimations. Participants were recruited through respondent-driven sampling. Respondents were asked questions related to needle and syringe use and preferences, reasons why they would or would not use LDSS available on the market and willingness to pay (WTP) for LDSS.

Results: PWID interviewed averaged 9.9 years of injecting, and injected 59.7 times a month. A quarter of PWID (25.4%) used LDSS the last time they injected with use significantly weighted towards southern provinces (Ho Chi Minh City: 91.6%, CanTho: 38.6%) (p<0.001). In the four northern provinces, use of LDSS at last injection ranged from 1.0-3.6%. For PWID that primarily used LDSS, the most important features were less pain when injecting (61.3%), delivering the maximum quality of drug (54.7%), and a small (1ml), detachable needle (35%). Overall 35.3% of PWID preferred 1ml syringes (primarily PWID in the south) while 26.4% preferred 2ml and 38.2% 3ml (predominately northern PWID). Primary reason for not wanting to use the 1ml LDSS was the syringe size not allowing for mixing heroin with other drugs and the needle being too small. 51.2% of respondents reported WTP for LDSS. WTP was associated with greater wealth, and having a secondary school degree or above (p<0.001).

Conclusions: LDSS could play a significant role in reducing new HIV infections among PWID. For wide-scale utilization to occur, 2-3ml LDSS syringes need to be made available by local or international manufacturers at affordable prices, accompanied by intensive demand creation.

THPEC143
IMPACT OF OPIOID SUBSTITUTION THERAPY ON HIV PREVENTION BENEFIT OF ANTIRETROVIRAL THERAPY OUTCOMES: A SYSTEMATIC REVIEW, META-ANALYSIS AND MODELLING
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Background: A systematic review, meta-analysis and modelling was undertaken to assess the effect of OST on ART outcomes and the impact of the possible synergism between OST and ART on HIV prevention benefit of ART.

Methods: We searched multiple databases for studies between 1996-2014 that reported the impact of OST compared to no OST on ART outcomes. Outcomes were: coverage and recruitment onto ART; adherence; viral suppression on ART; and attrition from ART. Meta-analyses were conducted using random effects modelling that informed two mathematical models. First, a static model evaluated the extent to which OST may increase the average efficacy of ART for reducing the infectivity of PWID, while accounting for PWID on and off ART. Second, a dynamic model projected how OST may improve the population-level effectiveness of ART for different OST and ART coverage levels.

Results: The systematic review identified 4685 articles and 32 studies were included. OST was associated with a 69% increase in recruitment to ART (HR=1.69, 95% confidence interval (CI):1.32-2.15), a 54% increase in ART coverage (OR=1.54; 95%CI:1.17-2.03), a two-fold increase in adherence (OR=2.14, 95%CI:1.41-3.26), a 23% decrease in attrition (OR=0.77, 95%CI:0.63-0.95), and a 45% increase in viral suppression (OR=1.45, 95%CI:1.21-1.73). Because OST increases the likelihood of a PWID being on ART and being virally suppressed, static modelling suggests that being on OST could increase the average relative effectiveness of ART for reducing an individual’s infectivity, by 44% for a low baseline coverage of ART (20%), and 20% for a high baseline coverage of ART (60%). At the population-level, the dynamic model suggests similar impact could be achieved if OST is scaled-up to high coverage, with 60% OST coverage increasing the effectiveness of ART by 45% for 20% baseline coverage of ART, and 21% for 60% baseline coverage of ART. Although less population-level impact is achieved for lower OST coverage levels, impact at the individual level is maintained.

Conclusions: These findings suggest the evidence base for the benefits of OST in HIV treatment and prevention, and support strategies to integrate OST with HIV services in order to improve the HIV treatment cascade amongst highly ART-positive PWID.

THPEC145
INCREASED UPTAKE OF HIV PREVENTION SERVICES AMONG PEOPLE WHO INJECT DRUGS: FINDINGS FROM THE HIRIDHA IMPACT ASSESSMENT STUDY IN INDIA
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Background: Injecting drug use remains a significant route of HIV transmission in India. The Indian government currently reports the population of people who inject drugs (PWID) to be approximately 200,000, with an estimated HIV prevalence of 7.14% (NACO, 2011). India HIV/AIDS Alliance operates the Hiridha programme in five Indian states as part of the international, Dutch government funded Community Action on Harm Reduction (CAHR) initiative. The programme strengthens harm reduction services for PWID and their close contacts by providing additional services along with government-supported targeted interventions for HIV response.

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Methods: Cross-sectional baseline (2012) and impact assessment (2014) surveys were conducted following three years of programme implementation. PWID were selected for interviews through systematic random sampling using client information from partner NGOs at selected sites. A total of 600 semi-structured interviews and 50 case studies involving PWID were conducted.

Results: Respondents received services from Hridaya for an average of 12 months. Impact assessment report showed significant increases in utilization of HIV testing (76% to 88%), ART registration among HIV+ PWID (86% to 92%), education/diagnosis of TB (51% to 81%), OST (46% to 51%) and de-addiction services (47% to 57%) in the past year. Family support to PWID has increased significantly from 12% to 61% through Hridaya’s added family outreach services. An association between family support and service utilization was also observed.

Conclusions: Complementary services resulted in increased uptake of HIV prevention, care, support and treatment services including family support to PWID. Comparison with baseline figures shows a progressing trend; continued efforts in this direction will ensure that additional services reach those in need.

TWPEC146  GENDER DIFFERENCES IN CHALLENGES FACING FAMILY MEMBERS OF PEOPLE WHO USE DRUGS IN VIETNAM

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Background: There has been widespread evidence that the negative consequences of drug abuse are not limited to People Who Use Drugs (PWUD), rather, they significantly impact the families of PWUD. Although family members of PWUD frequently have been studied, there has been little recognition of the caregiver role played by family members. In addition, limited studies have examined the impact of gender differences in challenges of family members of PWUD.

In this study, we examined gender differences in depressive symptoms, coping with stress, and caregiver burden of family members of PWUD. Methods: This study used a cross-sectional baseline data collected from a randomized controlled intervention trial with 600 family members of PWUD recruited from sixty communes in Phu Tho and Vinh Phuc Province, Vietnam. Depressive symptoms, coping with stress, and caregiver burden were collected at baseline.

Results: Family members of PWUD reported high levels of depressive symptoms (mean=19.5), sense of entrapment (mean=27.9), and caregiver burden (mean=58.85). The gender breakdown of family members was as follows: 140 male vs. 460 female. When we examined depressive symptoms, sense of entrapment, and caregiver burden by gender, we found that female caregiver reported significantly higher levels of depressive symptoms (mean=19.6), compared to male family members (mean=17.6; p<0.004). In addition, females reported higher sense of entrapment (mean=28.1 vs. 27.1; p=0.010) and higher caregiver burden (mean=59.2 vs. 57.6; p=0.10), compared to their male family members.

Conclusions: Family members of PWUD face significant challenges, including depressive symptoms, coping with stress, and caregiver burden. Our study underscores the importance of addressing the gender differences in family members of PWUD around these challenges. Gender differences of family members should be taken into account when developing future interventions tailored to the needs of family members of PWUD.

TWPEC147  HIV COUNSELLING AND TESTING DECREASES RISK OF HIV SEROCONVERSION AMONG PEOPLE WHO INJECT DRUGS IN UKRAINE

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Background: HIV epidemic in Ukraine was estimated to be one of the most rapidly growing in Europe and was driven primarily by people who inject drugs (PWID). Since 2003 Ukraine has been implementing nationwide prevention program for PWID which covers about 60% of population annually. The massive HIV counselling and testing (HCT) program among PWIDS has been launched in 2010. About 80,000 tests cover this population each year.

The study explores the impact of HCT as a part of prevention services package on the HIV incidence among PWID.

Methods: Respondent driven sampling was used in 11 regions representing different parts of Ukraine to involve HIV negative PWIDS into the cohort study. Total sample of 2157 participants was enrolled 2013. All participants had to be registered as prevention program clients prior to enrolment. Three follow-up rounds of assessment were done within the period of 6 month. Testing for HIV and HCV was conducted at each follow-up. Programmatic data collected through the client and service tracking database “Syrix” were merged with the results of cohort study by means of unique identifier code. Bivariate analysis and Cox Regression were used to test the influence of prevention services, including HCT on the HIV incidence. Results: 52 seroconversions were registered at all follow-ups. Annual HIV incidence rate observed in the prospective cohort study among PWID was 1.81%. The number of new HIV positive results has been declining with each next follow-up measurement. Average number of HIV tests received in lifetime (excluding the tests done in the study) was 2.87 for those who seroconverted compared to 3.45 among those who stayed HIV-negative (t-test p-value 0.037). In multivariate analysis, controlling for the effect of age, sex, other service use, each additional test was decreasing the risk of HIV seroconversion by 36.4% (AHR=0.636).

Conclusions: HCT remains one of core components of prevention services for PWID and should be further extended. Access of PWID to HCT should be properly monitored through bio-behavior surveillance. Additional studies should be done in order to assess the quality of counselling and reasons for not being tested.

TWPEC148  HARM REDUCTION AMONG INJECTING DRUG USERS IN SERBIA: LESSONS LEARNED AND EFFECTS FROM ENDING THE GF PROGRAMS IN COUNTRY

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Background: On 29 July 2002, the Médecins du Monde (MdM), France launched the first needle and syringe exchange project in Belgrade which NGO Veza continued to carry out until recently. After MdM had left, GF project overtook financing when Serbia received grants in Round 6 and Round 8. The GF project included spreading of the program to other towns in the country. On average, NGO sector provides support to 2.000 drug users annually. Approximately 1.000 of them are HIV tested. It is estimated that in Serbia there are around 13.000-30.000 IDUs. Program was carried out until the end of 2014 when it was closed down in all the towns in Serbia. Description: NEP achieved a significant success in Serbia in terms of HIV prevention. Decrease in the number of HIV positive individuals among population was rapid through implementation of harm reduction program and resulted in almost totally suppressing the epidemic among IDU, a group under most risk until the end of the 90s. For that reason, in 1991, total percentage of IDU among newly infected people was 70%, 16% in 2002, while in 2014 it was 4%. (According to the 2014 Annual Report of Serbian National Institute for Public Health).

Lessons learned: HR program in Serbia was exceptionally successful. During more than 10 years, NEP covered over 7.000 users offering needle replacement program, advice and testing. After GF had left, these programs were not able to find an alternative source of financing by other donors, while at the same time the state did not recognize such a financing as of interest. There is a very profound conviction among professional community in Serbia that ending of harm reduction activities will lead to significant increase in the number of newly HIV infected persons among IDK in the coming years.

Conclusions/Next steps: It is an urgent need for Serbia to re-establish a harm reduction program for IDU, especially the NE program to prevent increase in the number of newly-infected IKD and to continue a positive trend in decrease of IDU in total number of HIV positive population in the country.
PREVENTION FOR MALE, FEMALE AND TRANSGENDER SEX WORKERS

THPEC149
HOW MIGHT NEW HIV PREVENTION PRODUCTS CHANGE FINANCIAL INCENTIVES FOR RISK IN COMMERCIAL SEX WORK? EXPLORING THE STATED PREFERENCES OF FEMALE SEX WORKERS IN SOUTH AFRICA

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Background: New HIV prevention products are a priority for key populations including sex workers. In many settings, unprotected sex can attract large price premiums. To date, the impact of new HIV prevention products on the economics of commercial sex has generally not been considered. This study used a repeated discrete choice experiment (DCE) to explore how introducing an effective HIV prevention product may affect FSW preferences for pricing, sex act and client characteristics.

Methods: From September to December 2015 we surveyed 122 consenting female sex workers from Ekurhuleni, South Africa using respondent driven sampling. All respondents were HIV negative by self-report, and were asked to choose between two unique, hypothetical commercial sex acts, over ten choice-sets. Acts were described by their price, condom use, sex act type, and whether a client was thought to have a sexually transmitted infection (STI) or be HIV positive. Participants were subsequently asked to answer these same questions, but with the assumption that they were using a highly effective HIV prevention product. A random parameter logit model was used to analyze choice data.

Results: The median age was 30, 84% worked in an indoor setting, and the median amount charged for each of the last three vaginal sex acts was ZAR50. 95% of respondents chose at least one unprotected act in the DCEs. Estimates suggest that the amount of unprotected sex supplied could increase by 120% after the introduction of an effective HIV prevention product, assuming demand for unprotected acts remains constant. Results suggest that most respondents understood the framing of the DCE as client HIV status became a non-significant influence on choice (p=0.07), whilst price, condom use and the type of sex provided were all significantly influential in both DCEs (p<0.01).

Conclusions: This study suggests that the price premium of unprotected sex would decrease with the introduction of a fully efficacious HIV prevention product, potentially increasing the number of unprotected sex acts supplied. With partial HIV, STI, or pregnancy prevention efficacy, product impact may be reduced. There is a need for clear messaging around the efficacy of products, alongside encouragement for continued and consistent condom use.

THPEC150
HIV CORRELATES AMONG MOTHERS ENGAGED IN SEX WORK, WITH AND WITHOUT CHILDREN AT HOME

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Background: Many sex workers are mothers, but little is known about how having children may affect HIV-related risk behaviors among female sex workers (FSW). Previous work indicates mothers may increase sexual risk behaviors, but also may adopt protective behaviors (STI care, demanding condom use) for their children’s sake. Additionally, mothers who live with their children may be more likely to adopt protective behaviors. Using data from FSW in three cities in Russia, we explore the relationships between having children, the child(ren)’s residential status (with or away from the mother), and HIV-related risk behaviors.

Methods: FSWs (n=754) from Tomsk, Krasnoyarsk, and Kazan were recruited using respondent-driven sampling for a cross-sectional survey in 2011. Using logistic regression, we explore the HIV-risk related correlates of having children either at home or away living, and those relationships to HIV-related risk behaviors (inconsistent condom use, accessing more money for condomless anal or vaginal sex, experience of sexual or physical violence).

Results: 754 FSW were categorized into non-mothers (n=422) and mothers (n=332); mothers were further categorized into non-residential mothers (live separately from children, n=156), and residential mothers (live with children, n=176). Mothers vs. non-mothers were significantly older, more educated, and were more likely to be married/partnered. Overall, mothers were not significantly different from non-mothers in bivariate and multivariable analysis, with the exception of increased lifetime of likelihood of HIV testing (aOR 2.12 [95%CI:1.07-4.21]). Residential mothers were protected against accepting more money for condomless vaginal (aOR 0.57 [95%CI:0.40-0.82]) and anal (aOR 0.37 [95%CI:0.15-0.93]) sex compared to non-mothers. This was also true of residential vs. non-residential mothers for anal sex (aOR 0.40 [95%CI:0.18-0.90]), though there was no statistical difference for vaginal sex (aOR 0.63 [95%CI:0.35-1.14]). Residential mothers had lower odds of having experienced sexual violence from clients (aOR 0.42 [95%CI:0.22-0.80]) relative to non-mothers, as well as compared to non-residential mothers (aOR 0.49 [95%CI:0.23-0.96]).

Conclusions: Having children at home had a protective effect on HIV-related risk behaviors, highlighting how the broader contexts of FSW’s lives may, in part, influence their risk in the work environments. Holistic understanding of FSW’s family contexts and reproductive needs can inform programmatic response to co-occurring health concerns.

THPEC151
WHAT ARE THE FACTORS DETERMINING RECENT HIV TESTING AMONG FEMALE ENTERTAINMENT WORKERS IN CAMBODIA?

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Background: In Cambodia, women account for half of all HIV infections, and female entertainment workers (FEWs) are considered a high-risk group. Reaching this population with prevention services such as regular HIV testing is a high priority in the country. This study aims to identify factors associated with recent HIV testing among FEWs in Cambodia to inform future prevention activities.

Methods: This cross-sectional study was conducted in May 2014 among FEWs randomly selected from a list of entertainment venues in the capital city of Phnom Penh and Siem Reap province using probability proportional to size sampling. A structured questionnaire was developed using standardized tools for face-to-face interviews. A multivariate logistic regression model was constructed to identify independent determinants of recent HIV testing.

Results: Data were collected from 667 FEWs, of which 81.7% reported ever having had an HIV test, and 52.8% reported having had an HIV test in the past 6 months. Of those who had ever had an HIV test, 53.0% obtained their test through community/peer-initiated testing and counseling, 22.0% at private facilities, 12.8% at public facilities, 8.6% at VECT centers and 3.6% at other locations. Respondents who had been tested for HIV in the past six months were significantly more likely to live in Phnom Penh (AOR=2.17, p<0.001), to have received HIV education in past six months (AOR=3.48, p<0.001), to report condom use in the last sex with a non-commercial partner (AOR=0.48, p=0.02), to agree that ‘Getting tested for HIV helps people feel better’ (AOR=0.31, p<0.02) and to disagree that ‘I would rather not know if I have HIV’ (AOR=2.15, p<0.001).

Conclusions: FEWs with greater knowledge and more positive attitudes towards HIV prevention got tested for HIV more frequently than those with lesser knowledge and less positive attitudes. These findings suggest that future interventions should focus on disseminating tailored behavior change messages around testing practices as well as specific topics such as condom use with non-commercial partners. In addition, efforts to reduce stigma around HIV testing and knowing one’s HIV status may improve attitudes towards HIV testing and therefore may be important areas for future programming for FEWs in Cambodia.

THPEC152
NOT WHAT WE AGREED: EXAMINING MALE SEX WORKERS’ EXPERIENCES OF PHYSICAL AND SEXUAL VIOLENCE FROM THEIR CLIENTS IN MOMBASA, KENYA

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Background: Sexual and physical violence are known risk factors for HIV infection. However, few studies have examined physical and sexual violence in male sex work in Africa. We investigated experiences of violence among male sex workers
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THPEC153
DEVELOPING A TYPOLGY OF THE LATINO SEX INDUSTRY TO IDENTIFY HIV RISK REDUCTION RESEARCH AND PROGRAM NEEDS IN AN EMERGING IMMIGRANT RECEIVING CITY IN THE UNITED STATES

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Background: Despite the high use of female sex workers (FSWs) and the potential implications for HIV transmission among Latino and Latino immigrants, little is known about the structure and context of sex work within this population, or the nature of HIV risk for FSWs and their clients. Efforts developed to address HIV risk within other sex industries in the U.S. may not be applicable to this population as a result of their unique political, economic, social and individual position in the U.S.

Methods: We conducted a total of 38 in-depth interviews (14 foreign-born Latina FSW, 18 foreign-born Latino clients and 6 key informants) to identify the range of sex industry activities and locations, the breath of lived experiences and the interactions between the social actors within the sex industry. A rudimentary typology of sex venues within the local sex industry was created. Additionally, interview transcripts were analyzed using a modified constant comparative approach to identify themes.

Results: The "venues" identified include brothels (casa de citas), weekend hotels, bars, street, online and independent casual workers. The risk environment varies between venue. Important general themes include the normalization of transactional sex in the local Latino immigrant community, the distinction between "decent women" who sell sex and "prostitutes" and low perceived risk for HIV infection. Despite past violent experiences, sex workers did not perceive themselves at risk for violence. Instead, some bar and casual sex workers perceived greater control of their life in the U.S. through participation in sex work.

Conclusions: Variability in the structure and context of engagement in, and with, sex work results in a spectrum of HIV risk. Although the use of directed interventions related to sex work have been demonstrated to be cost effective, developing appropriately targeted interventions requires a comprehensive understanding of the local sex industry. Our findings identify variations in risk between venues as well as common broad and venue-specific themes related to sex work. Together these serve as a first step in the development of risk reduction efforts aimed at foreign-born Latina FSWs and their foreign-born Latino clients in the U.S.
THPEC157
IN INVOLVING TRICYCLE AND CAB OPERATORS IN LOCATING MOST-AT-RISK POPULATION FOR PROGRAMMING: EXPERIENCE FROM LAGOS, NIGERIA

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Background: The Most at risk population including the female sex workers (FSW), Men who have sex with men (MSM) and people who inject drugs (PWID) continue to contribute significantly to the spread of HIV in Nigeria; recording higher prevalence than the general population. Identifying the location and estimating the population of MARPs is a key consideration in planning, implementing and evaluating HIV prevention interventions tailored to the MARPs. To identify the location and estimate the population of FSWs in Lagos, the USAID-funded Strengthening HIV Prevention Services (SHIPS) for Most at Risk Populations (MARPs) project in Nigeria conducted a population-based study in Lagos and 6 other states and FCT in 2015.

Description: A total of 40 trained data collectors conducted 6114 key informant interviews across the 20 local government areas (LGAs) in Lagos State and the study lasted for twelve weeks. Secondary Key informants (KIs) including drivers, pet shop owners, artisans, students, bar men, hotel operators, security guards, students were contacted for interview regarding the location of FSW hotspot and the estimate of the population size based on their experience. A list of the mentioned 5,272 hotspots was compiled. Each hotspot was visited and an FSW at each of the hotspot was interviewed to validate the information provided by secondary KIs; FSWs were found to operate at 2,534 of the spots. It was found that 92% of the 1,320 FSW hotspots mentioned by tricycle or cab operators were active and the information provided on the number of FSW and time of operation were accurate when compared with information obtained from FSW at the venue.

Lessons learned: Tricycle and Cab operators are highly knowledgeable about the location and mode of operations of the FSWs and engaging them in identifying FSW hotspots will save cost and make the initial mapping of hotspot that precedes program implementation easier for implementers.

Conclusions/Next steps: For comprehensive coverage of MARPs in intervention communities, HIV prevention programs should consider involving Tricycle and cab operators in locating venues of operation of FSWs. Involving them (Tricycle and cab operators) in implementation could also be explored and piloted.

THPEC158
USING GEOSPATIAL ANALYSES TO STREAMLINE TARGETED SAMPLING OF FEMALE SEX WORKERS

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Background: Targeted sampling was one of the first rigorous recruitment strategies employed to sample members of hidden populations (e.g., sex workers) at risk for HIV. This method is characterized by the use of ethnographic data and triangulated with secondary sources, to identify specific venues and times in which members of the target population may be encountered. Targeted sampling is not employed as regularly as other sampling strategies given the intensity of its methods. We aimed to describe how a series of geospatial analyses of secondary data sources were used to streamline targeted sampling efforts and reduce dependence on ethnographic data collection. A study examining police’s role in shaping the HIV risk environment of sex workers in Baltimore, MD.

Methods: Geospatial data of prostitution charges were abstracted from a publicly available dataset created by the Baltimore Police Department and imported to ArcMap. Data were analyzed at the census block group- and block-level to inform ethnographic data collection. Other data were abstracted from a website where persons discussed their interactions with sex workers. After conducting a series of optimized hot spot analyses, prostitution reports to a 911 call center were abstracted to identify specific days and times of sex work activity in the hot spots.

Results: Initial mapping of the prostitution charge data suggested sex work activity was racially segregated and dispersed across multiple census block groups. Given logistical constraints and to achieve a more balanced sample, a series of optimized hot spot analyses were conducted by race and sex to identify precise venues of sex work activity for each demographic. These hot spots were aggregated into a single map that was reflective of hot spots of sex work activity overall and within specific demographics, and triangulated with data from the sex work website. The prostitution reports to a 911 call center were triangulated with other data sources and formed the basis of the day and time components of our sampling frame.

Conclusions: Geospatial analyses can be an advantageous component of a targeted sampling strategy for HIV-related study recruitment by reducing dependence on ethnographic data and allowing for significant fiscal and temporal cost-savings by streamlining participant recruitment.

THPEC159
ACTIVE TARGETED HIV TESTING AND LINKAGE TO CARE AMONG MEN WHO HAVE SEX WITH MEN ATTENDING A GAY SAUNA IN THAILAND

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Background: Limited data exists on the feasibility of HIV testing and counseling (HTC) service and linkage to care among Thai men who have sex with men (MSM) in hotspots.

Methods: A prospective study of active targeted HTC program and linkage to care among MSM (≥18 years old) was conducted at a gay sauna in Thailand from November 2013 to October 2015. HIV risks and risk perception were evaluated through an anonymous survey. Participants were categorized as having low, moderate or high risk for HIV acquisition based on pre-defined risk characteristics. Participants who accepted HTC underwent HIV testing with result notification at the sauna. HIV care appointment for antiretroviral therapy (ART) initiation was arranged by the counselor for HIV-infected participants whose care engagement was subsequently assessed.

Results: There were 358 participants; median age was 30 years and 58% were at high-risk for HIV acquisition. Of the 358 participants, 148 (41%) accepted HTC, all of whom either had prior negative HIV tests [88/148 (66%)] or had not known their HIV status [50/148 (34%)]. The three most common reported reasons for not accepting HTC were prior HIV testing within 6 months (48%), not ready (19%), and perceiving self as no risk (11%). Among the 162 moderate- and high-risk participants, 172 (66%) had false perception of low HIV risk. Having false perception of low risk was significantly associated with no HTC acceptance. Of the 148 participants undergoing HTC, 25 (17%) were newly-diagnosed of HIV infection. Independent factors associated with HIV positivity included having false perception of low risk (P=0.004) and age < 30 years (P=0.02). Only 12 of the 25 HIV-infected participants (48%) had established HIV care with the median time of 24 days (range 4-255 days) since knowing HIV results, all of whom received immediate ART.

Conclusions: The active targeted HTC program and HIV care establishment was feasible among MSM attending the gay sauna. False perception of low HIV risk was the important factor associated with no HTC acceptance and HIV infection. Strategies to improve HIV risk perception and linkage to care are urgently needed among this high-risk population.

THPEC160
SEXUAL PRACTICES AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN THE ANTIRETROVIRAL PRE-EXPOSURE PROPHYLAXIS TRIAL IN CHIANG MAI, THAILAND

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Background: The study aimed to gain a comprehensive understanding of participation in a blinded antiretroviral pre-exposure prophylaxis (PrEP) clinical trial on sexual practices of men who have sex with men (MSM) and transgender women.

Methods: The study utilized both quantitative and qualitative methodology. Quantitative data relied on questionnaires from the parent study, Pre-exposure Prophylaxis Initiative (iPrEx) in Chiang Mai, conducted between 2009 and 2014. Data included reported PrEP medication adherence and sexual risk among all 114 study participants. Forty-six participants took part in the qualitative data collection, with 32 interviewed, and 14 participating in one of three focus group discussions. A semi-structured guide explored experiences with study medication and sexual lifestyles. For quantitative data analysis, average study medication adherence was...
calculated. Change in sexual risk was based on number of sex partners and incidents of sex without a condom. For qualitative data, content analysis was used to identify repeated normative themes, some of which arose spontaneously from interview interaction and some in response to open-ended questioning.

Results: The quantitative data indicated that on the whole, participants at the Chiang Mai site reported good adherence to the study medication. The data also suggested that the sexual risks taken by these participants were reduced at their final study visit though this was unrelated to level of adherence. While the data on sexual risk related to anal and vaginal sex needs to be regarded with caution given the low number of respondents, overall the pattern appeared to be one of reductions in partners and condomless events. Nevertheless, qualitative findings described sexual practices that were highly contextual and use of risk assessments to determine safe sex practice. Condoms were, for example, used with casual partners but not necessarily with primary partners.

Conclusions: Findings suggest that while PrEP is an exciting new development for future HIV interventions, it must be paired with behavioral interventions to fully address sexual risk among this population - interventions that provide this population with skills to negotiate condom use with their primary partners as well as in situations in which their sexual partners do not support condom use.

THPEC 161
APPLICATION OF THE SAN DIEGO EARLY TEST SCORE TO PREDICT HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN, BANBOKK, THAILAND

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Background: The San Diego Early Test score (SDET) was developed and validated to identify target populations for HIV interventions, such as pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) and transgender women (TGW). We applied the SDET method to predict HIV infection among MSM enrolled in the Bangkok MSM Cohort Study (BMCS), and to consider use of the risk score for prioritizing who receives PrEP.

Methods: We enrolled sexually-active Thai MSM and TGW aged ≥18 years in the BMCS from 2006-2010, with follow-up every four months for 5 years. At each visit, participants answered questions on HIV risk behavior in the past four months, and were tested for HIV infection using oral fluid and a rapid test algorithm. If negative, HIV Nucleic Acid Amplification Test (NAAT) was performed. HIV infection diagnosed by either test was considered to be acute. We retrospectively randomized participants by a 2:1 ratio to a derivation and validation dataset, respectively. Using the derivation dataset, behavioral predictors reported prior to HIV acquisition were assigned a point value that was close to its hazard ratio from a multivariable Cox regression. A diagnostic odds ratio (DOR) was calculated from the validation dataset to evaluate the validity of the cutoff score.

Results: Among 1,372 HIV-uninfected participants, 111 (8%) were lost to follow-up, and 225 acquired HIV infection by rapid test (n=215), or NAAT (n=10). Overall, HIV incidence was 4.6 per 100 person years (PY): 4.5 and 4.7 per 100 PY in derivative (n=906) and validation (n=466) dataset, respectively (p = 0.14). Three predictors were independently associated with HIV acquisition: more than four partners; condomless receptive anal intercourse; and attendance at sex parties. We used these predictors to calculate the SDET score: 3 points for condomless receptive anal intercourse, and 2 points for the other two predictors. A cutoff score of 3 significantly predicted HIV acquisition (DOR 2.5; 95% confidence interval: 2.0-3.0).

Conclusions: An SDET score cutoff of 3 can be used to identify MSM and TGW at greatest risk for HIV acquisition, and may be useful in identifying those in need of PrEP in Bangkok, Thailand.

THPEC 162
HIGH LEVELS OF PREP ENGAGEMENT AMONG MSM/TGW FROM BRAZILIAN PREP DEMONSTRATION STUDY (PREP BRASIL)

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Background: Clinical trial data support use Pre-exposure prophylaxis (PrEP) with FTC/TDF for HIV prevention in high risk populations. Adherence is a critical factor associated with PrEP efficacy. In low/middle income countries with concentrated HIV epidemics, both the demand for and the adherence to PrEP are unknown outside of a clinical trial setting. We characterized the spectrum of PrEP engagement at week 4 and potential predictors among MSM/TGW in PrEP Brasil study.

Methods: 48 weeks multicenter, open-label, PrEP demonstration project to assess the feasibility of PrEP implementation (using daily FTC/TDF) provided at no cost in high risk MSM/TGW in the context of the Brazilian public health system, enrolled at 3 sites in Rio de Janeiro and São Paulo. Engagement to PrEP was assessed using TFV-DP and FTC-TDF in dried blood spots using LC/MS/MS for all study participants at week 4. PrEP engages was a 3-level ordinal variable classifying participants as PrEP-DP < 350 (< 2 pills/week), ≥350-699 (2-3 pills/week) or ≥700 fmol/punch (≥ 4 pills/week; highly protective range). Predictors of engagement were assessed using ordinal logistic regression model. Only variables statistically significant at 5% in the unadjusted model were included in the multivariable analysis.

Results: 450 participants enrolled, 437 (97%) initiated PrEP and 425 (94%) attended week 4 visit. At week 4, TFV-DP concentrations were highly protective range (≥700 fmol/punch) among 78% of participants and 89% had FTC-TDF detectable, indicating dosing within the last 24 hours. Higher educational level, unprotected receptive anal intercourse and study site were associated with higher drug levels.

Conclusions: Over 3/4 of the participants had drug concentrations associated with high protection levels at week 4. PrEP engagement was higher among participants reporting higher risk sexual practices which is expected to increase the impact and cost-effectiveness of PrEP. These results provide evidence of the feasibility of PrEP implementation in Brazil.
Methods: MSM underwent screening for eligibility followed by HIV testing, behavioural interviews as well as medical examination with collection of blood, urine and rectal swab specimen. Testing was conducted for hepatitis, gonorrhoea (NG), chlamydia (CT), syphilis and HSV-2. Additionally, CD4, viral load, haematology and biochemistry was done for all HIV positive participants. All HIV positive participants were started on ART regardless of viral load and/or CD4.

Results: As of December 2015, 473 participants had been enrolled. Median age was 23 (18-53), with 79% having more than primary education and 39% currently living with a male sex partner. Bisexuals were 29% while homosexuals were 49%. Those reporting transactional sex were 67% and 31% never used condoms during anal intercourse (AI). HIV prevalence was 9.1% with 64% newly diagnosed and 74% of all HIV-positive being in WHO stage 1. Mean viral load was 39,648 copies/mL (95% CI: 15,071-64,224) and mean CD4 555.2 (95% CI: 469.2 - 641.2) with 6 individuals having undetectable viral loads and 90% of all HIV positive participants reporting being ART naïve. Among HIV positives, mean creatinine was 55.1 (95% CI: 45.8 - 64.4) and mean ALT was 44.7 (96% CI: 35.5 - 53.9). STI prevalence were; HSV-2 - 18.4%, Syphilis - 2.3%, CT - 22.2% and NG - 13.9%. Prevalence for Hepatitis B was 30% and Hepatitis C 0%.

Conclusions: HIV prevalence lower than expected due to eligibility exclusion and the cohort had a higher risk with high percentages of transactional sex and STIs. All HIV positives enrolled in test and treat.

THPEC164
EQUITY OF ACCESS TO HEALTH RIGHTS: EMPOWERING MSMS TO LEAD HEALTHY LIVES
CASE STUDY OF HOYMAS, NAIROBI COUNTY, KENYA

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Background: In a three storey building in a middle class neighbourhood in Nairobi County, there sits a crowd of young men in a circle having a seemingly serious discussion. Others are seen busy on the internet trying to network with their peers. Meanwhile, a long queue is patiently waiting to receive services from the health providers at the clinic which is on the same floor. These men share three things in common; they all identify as men having sex with men (MSM), they are all looking for a place where they can speak freely about their sexual orientation and seek HIV and other health related services. In a society that is homophobic, such a safe space is not common.

Description: With an estimate of about 10,000 MSMs in Nairobi county, Health options for young men against HIV, AIDS and STIs (HOYMAS) is a community led program that works with MSMs by offering MSM friendly and peer led HIV combination prevention interventions. The program uses M&E tools that helps the program to understand individual HIV risks along with individualized responses. They have also contributed in developing the National guidelines for key populations in 2014 and this guides the program implementation.

Lessons learned: Quarterly uptake of Contacts and HIV services have increased from 62% to 84% (Mar2015 to Sept, 2015). Quarterly HIV testing and counselling improved from 3% to 18%. Quarterly STI Screening improved from 4% to 25% with the positivity rate for STIs reducing significantly from 68% - 8% during the same period. MSMs have formed a violence mitigation group and 76% of all violence cases have been addressed by them.

Conclusions/Next steps: It is fundamental that the right to health is made equitably accessible for all MSMs. As MSM programs scale up in Kenya and Africa, it is critical that planners and policy makers ensure that MSM programs are friendly and community led. By creating safe spaces where they can freely access HIV and other health services in a society that is still homophobic, translates to more MSMs coming out and seeking services in safe and familiar settings thus improving their health status.

THPEC165
AN EXPLORATORY QUALITATIVE INVESTIGATION INTO THE USES AND ROLE OF SOCIAL MEDIA FOR DESIGNING PUBLIC HEALTH INTERVENTIONS AMONG RWANDAN MEN WHO HAVE SEX WITH MEN

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Background: There is renewed impetus in decreasing burden of HIV and STIs amongst “at-risk” populations in Rwanda. Of particular importance are Men who Have Sex with Men (MSM), who experience social stigma and discrimination, which negatively impact their rights and access to services. Information about the social milieu of Rwandan MSM is vital in designing effective interventions to address their health needs.

Methods: We interviewed 31 Rwandan MSM using an exploratory qualitative design. Participants were selected by purposive and snowball sampling, provided information regarding patterns of social networking including use of social media applications, dating sites, private MSM-only house parties, friendship networks and participation in LGBT organizations. Data were analyzed using standard qualitative analysis procedures.

Results: Respondents, equally divided between members and non-members of LGBT associations, were 18 to 40 years and had all completed primary school education. About 70% were unemployed, the rest were self-employed, but mostly low income. An environment of intense stigma pervades the daily lives of Rwandan MSM leading to strong reliance on mobile phone applications and, to a lesser extent, non-technology means for social networking, advocacy, arranging transactions sex within and outside Rwanda and to identify access MSM-friendly sexual health services. Most Rwandan MSM are unfamiliar with popular dating websites such as “Grindr” but “Facebook”, “What’s App” and SMS were often mentioned as avenues for social interaction, educational activities and campaigning for LGBT rights. Young, single, better-educated and employed respondents are more social media savvy than older and less educated respondents. There is almost universal consensus that social media plays a vital role in enhancing social interaction between Rwandan MSM.

Conclusions: Knowledge of the means through which Rwandan MSM are able to organize and participate in social networks is critical in understanding their social experiences, promoting rights and spreading information about STIs including HIV/HPV. Although still limited in use, the existence of social media will facilitate the dissemination of targeted information about public health interventions aimed at promoting sexual and social wellbeing of this population and will aid government and civil society efforts to decrease the burden of diseases and increase access to services for marginalized populations.

THPEC166
AGE COHORT DIFFERENCES IN SEXUAL BEHAVIORS AMONG RECENTLY INCARCERATED BLACK MSMW IN LOS ANGELES

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Background: Many studies of Black men who have sex with men (MSM) do not differentiate between MSM only and who also have sex with women (MSMW). Differences in identification and behaviors create distinct sexual health risk profiles for HIV among Black MSMW groups. Little attention has been paid to associated behavioral risk factors for HIV and STI infection for Black MSMW with respect to age. We examined the prevalence of sexual risk behaviors between two Black MSMW groups: ages 40 and under compared to over the age of 40 who represent the first two generations affected by the HIV/AIDS epidemic.

Methods: Analysis was conducted on baseline data from a CDC-sponsored multi-site intervention study focused on Black MSMW in Los Angeles, Chicago, and Philadelphia and limited to men who reported at least one male and one female partner in the prior 3 months (n=550). Pearson's chi-square tests were conducted to evaluate the association between age groups and selected behavioral outcomes. Logistic regression was used to evaluate the odds of behavioral outcomes by age
group, adjusted for sexual orientation and stratified by HIV status.

**Results:** Results showed that HIV-positive MSMW over the age of 40 had 2.67 times the odds of having a casual female partner of HIV-negative or unknown status compared to HIV-positive MSMW ages 40 and under (OR 2.67, 95% CI 1.12, 6.31). Among HIV-negative MSMW, the older group was 63% less likely to have condomless IAI with most recent main male partner (OR 0.37, 95% CI=0.17, 0.81) and were 60% less likely to have a concurrent partnership while in relationship with most recent main female partner (OR 0.40, 95% CI=0.44-0.99). Additionally, for HIV-negative MSMW, odds of condomless IAI with most recent main male partner decreased 7% for each year of age increased (OR 0.93, 95% CI=0.90, 0.97).

**Conclusions:** Older HIV-positive Black MSMW demonstrated higher risk for HIV transmission to female partners compared to the younger group; older HIV-negative MSMW demonstrated lower risk for infection. Prevention efforts should consider the varying levels of exposure to HIV prevention information between these age groups of Black MSMW.

**THPEC167**

**USING SOCIAL MEDIA AS A PLATFORM TO DIRECT YOUNG BLACK MEN WHO HAVE SEX WITH MEN TO AN INTERVENTION TO INCREASE HIV TESTING**

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**Background:** HIV prevention and testing remain a high priority for reducing HIV infections among young black men who have sex with men (BMSM), and interventions to increase HIV testing tailored for this population are crucial (CDC, 2015). Social networking technology is a widely used feature among this population (Willkorn, 2011). Thus, examining the utility of highly used technology and social networking sites as a method for delivering interventions to motivate HIV testing among young BMSM is a worthy endeavor. The purpose of the present study was to examine the feasibility of implementing an HIV testing intervention to motivate HIV testing among young BMSM.

**Methods:** A small randomized intervention/control pilot study was conducted with BMSM (N=142) aged 18 to 30 (Mean=23, SD=3.4), who at baseline were unaware of their HIV status and had not tested for HIV in at least the past six months, residing in Los Angeles County, California. Participants were recruited online and at community-based agencies. The intervention group participants were asked to review five 60 second intervention videos, weekly, and post reflections using a chat feature. The video content was informed by findings from a formative project with young BMSM regarding barriers and challenges to, and recommendations for, motivating HIV testing uptake among young BMSM. Each video’s scene included young Black MSMW characters delivering the content as a vignette. Participants in the control group viewed standard HIV text information. Both groups completed a baseline and were 60% less likely to have a concurrent partnership while in relationship with their sexual partners during the past six months. The intention to use PrEP according to the current guidelines was moderate (Mdn=3, IQR=2-6). But the participants’ acceptability increased with the possibility to obtain a drug with less side-effects (Mdn=6, IQR=4-7, Z=-13.05, p<.001) or with 100% effectiveness (Mdn=6, IQR=5-7, Z=-14.52, p<.001). Also the option of an event-driven regimen (Mdn=5, IQR=2-7, Z=-5.79, p<.001) or a full financial coverage by health insurance (Mdn=6, IQR=3-7, Z=-12.06, p<.001) significantly increased the acceptability of PrEP.

**Conclusions:** Results indicated that the moderate acceptability of PrEP increased according to future adjustments of PrEP. Especially having a drug with less side-effects and a higher effectiveness is of importance. Moreover, financial coverage by health insurance will increase the acceptability. Before implementing PrEP in Switzerland, these issues should be considered.

**THPEC168**

**ORAL HIV PRE-EXPOSURE PROPHYLAXIS (PrEP) AMONG HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN IN SWITZERLAND: ACCEPTABILITY ACCORDING TO CURRENT GUIDELINES AND POSSIBLE FUTURE ADAPTIONS**

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**Background:** Almost half of the 500 to 700 HIV infections yearly diagnosed in Switzerland are among men who have sex with men (MSM). Although HIV pre-exposure prophylaxis (PrEP) has not been approved in Switzerland, there is a discussion about its potential and adequacy as an additional prevention method especially for MSM.

Therefore, the aim of the study was to explain the intention to use PrEP among MSM by developing and empirically testing a model based on the Unified Theory of Acceptance and Use of Technology (UTAUT). This model considering performance expectancy, effort expectancy, social influence, and age has been modified by including additional predictors, like concerns about PrEP, attitudes towards condoms, experiences in condom use, sexual risk behavior, expected stigma, income, and educational background.

**Methods:** The study design was cross-sectional. During a 9-month period, a convenience sample of 556 MSM was gathered through different channels. We collected the data using a self-administered standardized questionnaire, either online or paper-and-pencil. We analyzed the data by descriptive and bivariate statistics and conducted a three stage hierarchical multiple regression analysis of intention to use PrEP.

**Results:** The mean age of the respondents was 41 years (SD=11.9). Almost half (44%) of the participants held a university degree. The median annual income was between CHF 91’001 and CHF 104’000. About 84% have had sex with a casual partner during the past 6 month. Fifty-three percent have always used a condom when having sex with these casual partners. The hierarchical multiple regression analysis revealed an explained variance in intention to use PrEP of 50% (F=48.80, p<.001). Performance expectancy (β=0.23, p<.001), effort expectancy (β=0.18, p<.001), social influence (β=0.29, p<.001), and concerns (β=0.20, p<.001) significantly affected the intention to use PrEP, whereas the other variables showed no significant influence.

**Conclusions:** The findings indicate that a higher social influence, a higher performance expectancy, less concerns, and a lower effort expectancy, increase the intention to use PrEP among respondents. These results contribute to the discussion about the potential of PrEP in MSM.
Background: Sexual partner concurrency indirectly exposes an individual’s partners to each other, and thus may facilitate HIV transmission during recent (acute or early) HIV infection. Given that men who have sex with men (MSM) are disproportionately affected by HIV globally, we determined the prevalence and correlates of concurrency among partners of recently HIV-infected MSM.

Methods: From 2002 to 2015, 298 recently HIV-infected MSM (i.e., index subjects) in San Diego, California completed computer-assisted self-interviews providing information on up to 3 partners in the past 3 months, including the timing of sexual intercourse with reported partners. When the dates of sexual intercourse with different partners of an index subject overlapped, these partners were considered concurrent. We used logistic generalized linear mixed models to identify factors associated with concurrency at the partner level.

Results: Index subjects were predominantly White, non-Hispanic (62%), well educated (90% completed some college), had a mean age of 34.4 years (standard deviation (SD) =10.2), and had been HIV-infected for a mean of 85.2 days (SD=47.0). Index subjects reported on 697 sexual partners in the past 3 months (mean relationship duration=0.8 years; SD=1.8), of which 388 (56%) were concurrent to ≥1 other partner reported by the same index subject. After adjusting for partner age, race/ethnicity, HIV status, relationship type, condomless anal intercourse (CAI), and substance use during sex, the odds of concurrency were higher among partners that index subjects met on the Internet (odds ratio [OR] = 1.8, 95% confidence interval [CI]: 1.2-2.8) and partners with whom index subjects had been in a relationship for a longer duration (in years) [OR = 1.2, 95% CI: 1.1-1.4]. CAI was more frequently reported with partners with whom index subjects had been in a relationship for a longer duration (OR = 1.2, 95% CI: 1.1-1.4). Index subjects reported on 3 partners in the past 3 months, including the timing of sexual intercourse with reported partners. When the dates of sexual intercourse with different partners of an index subject overlapped, these partners were considered concurrent. We used logistic generalized linear mixed models to identify factors associated with concurrency at the partner level.

Conclusions: Indirect exposure to concurrent sexual partners is common among partners of recently HIV-infected MSM, suggesting that concurrency may be critical to sustaining HIV transmission among MSM. The impact of concurrency may be minimized via enhanced risk reduction counseling for MSM who meet partners on the Internet and MSM with long term partners who may not perceive themselves to be at risk of HIV.

THPEC171
PREP AWARENESS, ATTITUDES AND UPTAKE AMONG RACIALLY/ETHNICALLY DIVERSE YOUNG MEN WHO HAVE SEX WITH MEN IN CALIFORNIA

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Background: The World Health Organization now recommends that all people at substantial risk of HIV should be offered pre-exposure prophylaxis (PrEP). While PrEP awareness has generally increased, actual PrEP usage among young men who have sex with men (YMSM) has been limited. The present study seeks to understand PrEP awareness, attitudes, and uptake among racially/ethnically diverse YMSM.

Methods: An online survey was conducted using several popular geosocial networking applications and websites to understand PrEP awareness and usage, attitudes, and perceived barriers and facilitators to PrEP uptake among YMSM in California (ages 18-29). The majority of respondents (n=602) were YMSM of color (40% Latino, 30% African American) and the majority were low income. Multivariate regression was used to assess awareness, usage, and likelihood of using PrEP across demographic categories, and included measures for accessibility, affordability, health coverage, and sexual risk.

Results: About 1 in 10 respondents reported having used PrEP (9.6%). PrEP use was significantly higher among whites (13.9%) compared to Latinos (6.0%). Among those who had not used PrEP (n=544), the majority were aware of PrEP (73.0%). African-Americans were less likely to report PrEP awareness compared to their white counterparts (OR=0.41). Latinos were less likely to report having enough information about PrEP and knowing where to get PrEP compared to whites. Over half of participants indicated being extremely (or very) likely to take PrEP if it were made available to them (55.9%). Ethnicity, income, region, employment status, condomless anal sex, having enough information about PrEP, knowing where to get PrEP, and some attitudes were significantly associated with the likelihood of taking PrEP. Social media (56.7%), online or the Internet (49.4%), and friends (46.6%) were primary sources for PrEP information.

Conclusions: PrEP usage remains limited among YMSM. Among African Americans and Latinos, lack of awareness and access to information are barriers to using PrEP. Education efforts should be tailored to African American and Latino YMSM and include information about where to access PrEP, particularly for those without a regular health care provider. Social media may be an especially useful tool for increasing PrEP awareness among YMSM of color.

THPEC172
INTEGRATED SERVICE DELIVERY MODEL WITH HIGH-RISK MEN WHO HAVE SEX WITH MEN

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Background: Black MSM is the only population that continues to see increases in new HIV infections. This group has the most barriers to accessing prevention and care services. To reduce the number of HIV infections among Black MSM a multifaceted approach that includes effective HIV prevention programs designed to reduce risk behaviors, increase knowledge of HIV status, promote successful use of anti-retroviral medications (ARV) for those who are already positive must be integrated into a single model.

Description: A CDC-funded safe space specific to Black MSM in the southern region of North Carolina was created by using an integrated HIV service delivery model. Quality Home Care Services used this model to enhance HIV prevention and care techniques among Black MSM. Members of the target population were vital in the conception, development, and implementation of the program. Data was collected on venue selection, use of new technology, community spaces, and social networks to inform the potential barriers of prevention and care access.

Lessons learned: An integrated service model is essential to providing HIV services to young Black MSM. These young men are sometimes socially rejected which creates barriers for health care engagement. Addressing stigma, homophobia, and racism in a multifaceted approach is important for eliminating barriers for Black MSM. Comprehensive health programs should not only educate young MSM about HIV risk, but also address sexuality in the context of young men’s lives. Venue spacing, marketing, and technology are also critical to reaching the target population. Community resources are important for organizations using this model, as cost can be a barrier for HIV service organizations.

Conclusions/Next steps: Moving forward, Quality Home Care Services will use these data to strengthen the integrated model. Continuous quality improvement will be incorporated into the service model in addition to bi-annual assessments from members of the target population. It is important to address the structural barriers of this population, improve access to prevention and care services, decrease new HIV infections, and continue to provide safe spaces for Black MSM.
Wednesday 20 July

Results: We identified four main themes:
1) HCP understanding of HIV prevention needs are framed by broader social views towards same-gender sexual practices between men,
2) HIV prevention for MSM is impeded by low access to basic prevention tools and by negative attitudes towards HIV risk-reduction and testing behaviors,
3) MSM avoid healthcare interactions in which they anticipate that they will be stigmatized and
4) improving HIV/STI knowledge must be the foundation of HIV prevention strategies for MSM.

Although HCP sought to provide optimal patient care, their behaviors reflected views and misconceptions in the general population that MSM find to be stigmatizing. Limited accessibility (cost/availability) and poor condom quality (easily broken/ non-pleasurable) were frequently cited as barriers to use. Fear or indifference towards knowing one’s HIV status were common reasons for avoiding HIV testing. Stigmatizing interactions with the healthcare system were disincentives to establishing relationships with HCP for individual MSM, as well as their peer social network.

Conclusions: MSM in Ghana are exposed to negative healthcare climates, where condom utilization, HIV testing rates, and sexual health education for MSM are undermined by a generally unsupportive cultural and social context. These findings contribute to community stakeholder knowledge to inform development of HIV prevention interventions for MSM in Ghana, such as culturally appropriate sexual health education, and digital technology to connect individuals with resources supportive of MSM.

THPEC175
HOW TO USE SOCIAL MEDIA CELEBRITIES AND INFLUENCERS TO MOBILISE HIGHLY ENGAGED ONLINE MSM COMMUNITIES

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Background: A survey commissioned by Variety magazine in 2014 revealed that social media celebrities are more influential to young audiences than mainstream celebrities. YouTube’s popular online personalities who upload regular video content to YouTube—can have millions of highly engaged followers who value their opinions and trust their recommendations. Many of these YouTubers are gay/bisexual (MSM) or have large followings in those communities. Terrence Higgins Trust recognised the potential YouTubers have in promoting HIV testing and HIV prevention messages and initiated a strategy to engage them for England’s National HIV Testing Week in 2015.

Description: THT began by reaching out to the LGBT+ YouTube personalities with the largest MSM audiences by engaging with these influencers on social media. This was then followed up by sending them a comprehensive influencer pack highlighting the need for HIV prevention campaigns and the ways in which they can help make a difference. It also included a t-shirt, stickers and a message board which could be used in videos. Ongoing support was given to help them create content which delivered the key messaging of the event in a genuine and impactful way.

Lessons learned: 31 YouTubers provided social media support during National Testing Week 2015, providing 92 pieces of photo and video content which the campaign promoted through Facebook, Twitter and YouTube. This generated over 170,000 views on YouTube, had a potential reach of over 15,000,000 highly engaged people, and generated a large amount of media interest and multiple pieces of press coverage. All of this significantly increased the number of HIV postal home sampling tests ordered, increased our reach on YouTube by 126% and further raised the profile of National HIV Testing Week which achieved 89% audience recognition in a post event evaluation.

Conclusions/Next steps: Engaging YouTube influencers can be an extremely efficient, impactful and cost effective way to reach MSM. It must be done collaborative-ly and be mutually beneficial to both the campaign and the personality. This should be done as part of a larger and more holistic approach alongside other pre-existing marketing methods to achieve maximum impact.

THPEC176
STRUCTURAL VIOLENCE REDUCES QUALITY OF LIFE AMONG GLOBAL SAMPLE MSM: COMMUNITY ENGAGEMENT MODERATES SOME NEGATIVE IMPACTS

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Background: Structural violence (SV), (childhood sexual abuse, sexual stigma, violence, discrimination, and provider stigma) significantly increases psychological distress, which has been shown by other researchers to be associated with HIV risk, use of HIV services and adherence to HIV treatment among men who have sex with men (MSM). Less well understood are how SV impacts facets of quality of life among MSM globally, and the role of community engagement in ameliorating negative associations between SV and QoL. We sought to evaluate the impact of SV on physical, psychological, social and environmental indicators of quality of life (QoL), and explore the role of community engagement in ameliorating negative impacts.

Methods: Data were collected from MSM who completed the online Global Men’s Health and Rights survey between July and October 2014, in seven languages. We fitted GEE logistic regression models with robust standard errors, accounting for clustering by country, among 2316 MSM. We used World Health Organization’s (WHO) standardized measures of QoL.

Results: Table 1 indicates that MSM who experienced higher levels structural violence had significantly lower QoL (physical, psychological, social and environmental QoL) and higher odds of suicide attempts and suicidal ideation.
Community engagement moderated the associations between 1) violence and: psychological QoL (Coef.=.32; 95%CI=-10.53; p<.005); and social QoL (Coef.=.37; 95%CI=-3 to .72; p=.04); and 2) CSA and: overall QoL (Coef.=.18; 95%CI=-34 to .02; p=.03); and environment QoL (Coef.=-.59; 95%CI=-1.18 to -00; p<.001).

Conclusions: Structural violence significantly reduces quality of life of MSM globally across all four QoL domains. Community engagement moderated the negative associations between SV and QoL across a few domains and warrants further exploration. In addition to offering services that address QoL needs, reducing SV should be a priority to improving QoL and reducing risks to sexual and health risk of HIV MSM.

THPCE177
NETWORK VIRAL LOAD: A CRITICAL METRIC FOR HIV ELIMINATION

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Background: An aggregate viral load measure, the community viral load (CVL) is associated with increases in new HIV infections. The CVL, however, is prone to eco- logical fallacy due to the presumption that transmission is geographically bounded. In this paper, we develop a more precise metric, the Network Viral Load (NVL) that accounts for the composite viral loads of the risk partners of an HIV-individual. We test its association with HIV infection among a cohort of Young Black Men who have sex with Men (YBMSM).

Methods: We examined the relationship between CVL and HIV infection among YBMSM in Chicago. Networks were generated using Respondent Driven Sampling. NVL, the sum of the viral loads in one’s risk network, were calculated and divided into 3 categories, 100% HIV-network, NVL of 0-99k copies/mL, NVL of 100k+ copies. Multiple logistic regression was used to assess the relationship between NVL and individual HIV seroreivalence. A generalized structural equation model was fit to account for potential measurement error in the NVL calculation due to the possible incomplete assessment of one’s personal network.

Results: Of the 409 respondents, 100% were Black, median age was 23, and 32% were unemployed. HIV prevalence was 34%. After controlling for network size, age, substance use during sex, and # of anal sex partners in the past 6 months, we found increased odds of HIV infection with increased NVL score. The odds of HIV infection with a NVL of 0-99k copies/mL were 2.85 times that of a HIV network with all HIV- members (OR 2.04; 95% CI 1.26-3.0; p<.002); and environment QoL (Coef.=-.59; 95%CI=-1.18 to -.00; p<.001).

Conclusions: NVL could have substantial public health implications as it could be used for targeting HIV prevention interventions, such as PrEP, towards those who would benefit most.

THPCE178
HIV-DISCLOSURE AND UNKNOWN HIV-STATUS AMONG GAY COUPLES IN LIMA, PERU

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Background: HIV sero-disclosure is an important part of HIV prevention, especially between established couples. We conducted a study with gay couples in Lima, Peru to explore HIV disclosure and its relationship to HIV status.

Methods: This study was conducted in 2015 at a gay community center, which also participates in research studies. Recruitment used posters, a facebook page, and word of mouth. All participants completed a computer-based survey and provided a blood sample for HIV testing. Couples were encouraged to participate with their partner, though this was not mandatory only data from participants where both members of the couple participated are included. Unknown HIV-status was evaluated for couples, based on comparing self-reported HIV status and HIV testing results. Characteristics associated with couples being unknown HIV-status was evaluated using multivariable poisson regression to estimate adjusted prevalence ratios (aPRs).

Results: Our study included 93 gay couples (n=186 individuals). The median relationship duration was 1.9 years (Interquartile range 4 months to 2 years). Among the couples with complete HIV testing results (91 couples, n=182), 52% were HIV-concordant negative, 29% were HIV-discordant, and 19% were HIV-concordant positive. Among the couples, 152/186 (82%) reported that both had disclosed their HIV status to one another. However when based on HIV testing, 78% of the couples were unaware of their HIV-status as a couple, this was true for 100% of the HIV- discordant couples, 59% of the HIV-concordant positive couples, and 32% of the HIV-concordant negative couples. In multivariable regression, unknown couple HIV-status was significantly associated with having sex outside of the partnership vs. not (aPR 0.70, p-value=0.029), being HIV-discordant (aPR 3.03, p-value=0.001) or HIV-concordant positive (aPR 2.76, p-value=0.002) vs. HIV-concordant negative; and not having an HIV test (aPR 2.33, p-value=0.001). Most participants (63%) were highly supportive of couples HIV testing and counseling (CHTC).

Conclusions: HIV prevention in Peru focuses on individuals; existing partnerships between gay men are not taken into account. The high prevalence of unknown HIV sero-discordancy and unknown HIV-status warrants interventions to improve HIV testing and CHTC to address gay couples should be explored.

THPCE179
ASSOCIATION BETWEEN DEPRESSION AND ANXIETY AND ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG NEWLY DIAGNOSED HIV-INFECTED MEN WHO HAVE SEX WITH MEN IN CHINA

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Background: Adherence to antiretroviral therapy (ART) is crucial to achieve successful viral suppression. Depression and anxiety are potential barriers to adherence to treatment. Little is known about their effects on adherence to ART among Chinese men who have sex with men (MSM) with newly diagnosed HIV infections.

Methods: Of 367 Chinese MSM participants in a randomized clinical trial, 228 initiated ART during 12 months follow-up, and were included in this analysis. The Hospital Anxiety and Depression Scale (HADS) was used to measure depression and anxiety at baseline, 6 months, and 12 months. ART adherence was self-reported once every three months (perfect or no missing dose in the past three months vs. imperfect adherence or at least one missing dose in the past three months). Mixed-effect logistic regression assessed the effects of depression and anxiety on ART adherence over time while adjusting for age, intervention, site, education, social support, substance use, and HIV stigma in the model. 1. We excluded substance...
Depression

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THPEC180

COMMUNITIES AND FAMILIES CONSTRUCT HIV TREATMENT SCHEMATA, ENABLING GAPS IN HIV CARE FOR MSM IN MPUMLANGA, SOUTH AFRICA

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Background: Men who have sex with men (MSM) in general and especially rural and peri-urban MSM in South Africa were largely neglected in HIV prevention efforts until 2007 when the national government designated them as a key population. However, there is limited understanding of their HIV prevention and care seeking behaviors since this new HIV prevention strategy was implemented.

Methods: We conducted a 16-month research project with 61 MSM in two districts in Mpuumalanga Province, South Africa. The study was designed to understand the social, behavioural and knowledge factors that influenced HIV prevention and care decision-making. Focus group discussions and individual interviews utilized semi-structured protocols. All focus groups and interviews were audio-recorded, transcribed and translated into English. We used the cultural schema theory to analyse the data.

Results: There are distinct cultural schemas that influence MSM’s health and health-seeking behaviours in Mpuumalanga that are developed within families and in communities. These schemas reflect a history of previous HIV deaths in the MSM community and previous HIV education efforts that were directed towards the general, heterosexual population. There were three major schemas found that delayed HIV care-seeking behaviour: MSM were not considered to be at elevated risk for HIV transmission, self-diagnoses processes involved family; and traditional healers remain a part of the healthcare seeking process.

Conclusions: The prevailing cultural schemas around HIV and STIs in Mpuumalanga negatively affect the route of healthcare seeking for MSM. This creates a gap in HIV care for MSM that is based on community and family informed healthcare decision-making processes that involve predestined ideas about when an illness lasts too long and whether to go to traditional healers before going to a clinic. Community- and family-based education about HIV risk for MSM may shorten the time between a positive HIV diagnosis and HIV care-seeking behaviours, improving HIV health outcomes for MSM in these settings.
VIOLENCE AGAINST MEN WHO HAVE SEX WITH MEN IN CAMEROON: CORRELATES WITH HIV RISK, INFECTION AND ACCESS TO HEALTH SERVICES AND JUSTICE

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Background: Men who have sex with men (MSM) are recognized as a high-risk population for discrimination and violence, in addition to HIV. Little is known about how physical and sexual violence may affect HIV risk behavior, and access to health care and justice among MSM. Qualitative reports highlight severe violence, stigma, and discrimination in Cameroon, where the policy environment enables violence and discrimination against MSM.

Objectives: We describe physical and sexual violence among MSM in Cameroon, and associations of violence with HIV risk behavior, self-reported HIV infection, and barriers to accessing health services and justice.

Methods: In 2014, a total of 1,606 MSM were recruited via snowball sampling in seven cities, and completed a cross-sectional survey. Physical violence and sexual violence were evaluated separately. Following descriptive analysis, logistic regression evaluated associations of physical and sexual violence, respectively, with each outcome.

Results: Overall, 13.67% of participants reported physical violence due to MSM status, and 27.29% reported sexual violence. Physical violence was associated with self-reported positive HIV status (AOR 2.05, 95% CI 1.17, 3.60). Both physical violence, and sexual violence, respectively were associated with having been denied health service due to MSM status (AOR 2.90, 95% CI 1.71, 4.90; AOR 1.75, 95% CI 1.08, 2.83), respectively. Physical violence was associated with reporting police failure to protect (AOR 3.63, 95% CI 2.32, 5.66), and having been jailed (AOR 6.05, 95% CI 3.55, 10.30).

Conclusions: MSM in Cameroon experience prevalent physical and sexual violence, which is associated with HIV risk, and barriers to accessing health services and justice. Same sex relations are currently criminalized in Cameroon, and laws against rape in Cameroon are not inclusive of male victims. Decriminalization of consensual, adult, same sex relations has been recommended globally. However, decriminalization alone will not be effective, and must be accompanied with legal protection for MSM against discrimination and violence, and removal of barriers to accessing health services. The high prevalence of violence and associated HIV risks indicates the need to address violence within HIV programming.

CLIENT CENTERED CARE COORDINATION (C4) UTILIZATION AND PREP ACCEPTANCE AMONG BLACK MEN WHO HAVE SEX WITH MEN IN 3 CITIES IN THE U.S.

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Background: The HPTN 073 Study utilized a client-centered care coordination (C4) model to support initiation of PrEP as part of comprehensive risk reduction plans individually-tailored for Black men who have sex with men (BMSM) in three US cities.

Methods: The HPTN 073 Study enrolled 226 HIV-uninfected BMSM in three US cities, including Los Angeles, CA, Washington DC, and Chapel Hill, NC, between August 2013 and September 2014. All study participants were offered once daily oral FTC/TDF combined with C4, and followed-up for at least 12 months, with scheduled clinical visit at 3 week intervals. At each visit, participants were evaluated for C4 utilization and PrEP acceptance, in addition to side effects, renal toxicity, adherence, risk behavior and HIV seroconversion.

Results: Among the total 226 enrolled participants, 221 (97%) participants had at least one C4 encounter, with an average encounter length (minutes) 29 (95% CI 28-30). For those who initiated PrEP, 176 out of 178 (99%) participants had at least one encounter with an average encounter length 31 (95% CI 29-33). For those who didn’t initiate PrEP, 42 out of 48 (88%) participants had at least one encounter with average an encounter length 32 (95% CI 27-38). Compared to those who declined PrEP, participants who initiated PrEP were more likely to use C4 (OR = 12.6; 95% CI: 2.45-64.5, p<0.0024). A logistic regression model, including additional predictors, employment, sex with a male partner, shows an adjusted OR to be 9.6(95% CI:1.7-48.15 p< 0.0087).
PREVENTION FOR TRANSGENDER PERSONS

THPEC 186 LEVERAGING EXISTING SOCIAL NETWORKS TO INTRODUCE AND DISSEMINATE PREP AMONG TRANSGENDER WOMEN IN LIMA, PERU: A QUALITATIVE INQUIRY

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Background: Improved understanding of social network structures can contribute to the introduction and dissemination of new HIV prevention technologies within socially marginalized populations. This formative study explored social network formations and patterns of communication, trust, and behavioral influence among transgender women (TW) in Lima, Peru to inform future roll-out of HIV bio-behavioral prevention efforts.

Methods: Between May-July 2015, semi-structured in-depth interviews were conducted with 15 TW community members and 5 TW community leaders. TW leaders were identified during previous ethnographic research. Community members were recruited through snowball sampling within existing social networks from diverse geographic areas. Interviews were conducted in Spanish, recorded, transcribed, and analyzed using an immersion-crystallization approach.

Results: Participants described various types of social influence from multiple actors within their social networks. The majority identified a single close relative (e.g., mother, sibling) as their primary source of trust and support with whom they discussed emotions, desires, and personal secrets. However, key issues related to transgender identity, sexual intimacy, relationship issues (primarily with male partners), and work were typically avoided with this individual. Participants described close circles composed of 2-3 TW friends that formed the core of their social network structure, with whom they would socialize regularly and share both private and practical information about gender identity, body modification, and sexual partners, but would not discuss potentially stigmatizing issues like an HIV diagnosis. Density of links and number of nodes within networks was greatly influenced by occupation (e.g., whether participants engaged in sex work and frequented commercial sex venues) and living arrangements (e.g., communal housing arrangements among groups of TW). Narratives regarding organization of TW communities broadly differentiated between political leaders/activists (who advocated for TW rights) and social leaders (who introduced young women to norms and practices of the trans community, commercial sex--if applicable, hormone therapy, and body modification techniques).

Conclusions: TW in Lima described highly influential, diverse social networks composed of a range of social and familial ties, with corresponding differences in patterns of interaction, communication, trust, and influence. Detailed qualitative and quantitative analysis of these networks will contribute to implementation and acceptability of new HIV prevention technologies like PrEP.

THPEC 187 LOCAL CONTEXT IS EVERYTHING: A STUDY OF TRANSMITTED, TRANSMENSUAL AND TRANSGENDER WOMEN IN NORTH-EAST BRAZIL

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Background: There is growing recognition that transgender populations do not fit any simple characterization. In Brazil, the terms transvestite, transsexual, and transgender are commonly used by the communities themselves and can describe having an assigned sex at birth that differs from their current gender identity or expression. Though fluid and dependent on context, ‘transvestite’ can relay different levels of performance as a woman whereas ‘transsexual’ and ‘transgender’ can relay different degrees of transitioning. And recently, some prefer to be identified as ‘women’ to reflect their completed transition from their sex assigned at birth. It remains unknown if the disproportionate burden of HIV and other STIs varies among these self-identified groups. Therefore we describe preliminary results of a study on rates of HIV/STIs among these populations in Northeast Brazil.

Methods: We mapped spaces/venues where they meet: street locations, bars, nightclubs, gay parades, community based organizations and virtual media (Facebook, Skype, WhatsApp), to conduct a cross-sectional survey utilizing Respondent Driven Sampling (RDS) to test for HIV and syphilis.

Results: To date 126 participants were recruited and 46.8% identified as transvestites, 39.7% transsexuals, 3.1% transgender, 10.3% women. Though the demographic did not differ by gender identity, HIV status differed substantially: 57% transvestites, 28% transsexuals, 7% transgender women and 7% women were HIV-infected. Further, 49% transvestites, 38% transsexuals, 13% women, and no transgender women tested positive for syphilis.

Conclusions: Differences in terminology may have implications for addressing HIV/STIs and other health problems among these groups. The desire for universal nomenclature may not capture realities of local culture. While terms such as ‘transvestite’ and ‘transsexual’ may have negative connotations in some contexts, the local context in which this research has been conducted highlighted the importance of engaging with a range of terms that participants themselves used to define a diversity of preferences and experiences.

THPEC 188 TRANS INCARCERATION EXPERIENCES, CYCLE OF VIOLENCE AND INCREASED RISK OF HIV INFECTION: RESULTS FROM MURIEL PROJECT, SAO PAULO, BRAZIL

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Background: Transgender people are subjected to constant discrimination and violence in different social contexts. In Brazil, the penal system is being reported as a major player in the denial and violation of basic human rights. Historically, among inmates, transgender people are one of the main targets for arbitrary arrests and physical violence. Being in prison poses several risks, including HIV infection. Our objective was to analyze the experience of imprisonment in a study among transgender people in Sao Paulo, Brazil.

Methods: A consecutive quota sampling of transgender people was implemented in health care or social welfare services. A semi-structured questionnaire was used in face-to-face interviews. Socio-demographic characteristics, education, employment status, migration, access to health care, violence and discrimination experiences and self-reported HIV status among transvestites and transsexuals (FtM/MtF) were assessed in 7 municipalities of the State of Sao Paulo. Descriptive statistics and Chi-square tests were performed to analyze selected variables.

Results: Among the 673 participants, 19.6% (N=132, 129 FtM and 3 Fm) self-reported having been imprisoned. Those who experienced imprisonment are older (33.6±10.1 vs. 31.6±9.8, p=0.042), less educated (91.7% vs. 79.3%, p<0.001) and more frequently self-reported as black/multi-racial (68% versus 56%, p=0.016), compared to those who were not incarcerated. Also, they are more likely to be unemployed (37% vs. 22%, p=0.001) and less prone to have a formal employment (3% vs. 13.3%, p< 0.001). 43.5% self-reported HIV-infection (vs. 22.8%, p< 0.001) and 81.1% reported physical violence. Excluding the 3 FtM, 75% of the transwomen
reported being incarcerated with men, 58.3% could not dress accordingly to self-
identified gender, 22% had their hair cut, 78% suffered physical violence by other
inmates and 77.3% were assaulted by guards or other employees of the correctional
system.

Conclusions: Compared to the general population in Brazil, transgender people
were 36 times more likely to be incarcerated. Elevated frequencies of imprisonment
experiences in the transgender community, aggregated to other determinants, such
as physical violence and reduced work opportunities, strengthen a cycle of violence,
reinforcing vulnerabilities and increasing risk of HIV-infection. Health policymakers
should address attention to trans incarceration in order to warrant human rights
and access to integral health care.

PREVENTION FOR MIGRANTS, MOBILE AND DISPLACED POPULATIONS

**THPEC189 UNDERSTANDING/ADDRESSING HIV/AIDS WITH YOUNG ASYLUM SEEKERS FROM KP IN MENA**

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Background: UNHCR Global Appeal 2015, the humanitarian living conditions of mi-
grants/refugees have implications for the region’s HIV epidemic responses, these
groups are subject to abuse/assault/sexual harassment/violence. Data show that 2
million fled Syria, 1.1 million of which have located in Lebanon. SIDC USAID - LMG Project, assessed the knowledge, attitudes, and practices related
to sexual health, HIV, STIs/drug use among Syrian asylum (15-30yrs) from LGBT com-
munities among which Sex workers and Drug Users, to develop appropriate HIV
prevention interventions.

Methods: Data was collected validated with key informants&group of professional.

Results: Despite good knowledge on HIV/STIs, responses confirmed that LGBT per-
ceived themselves at risk of contracting STIs due to their sexual practices (90%) dur-
ing their asylum period; MSM engage in SW (up to 30%) among which 30% aged
between 15-21 years, use social media sites to meet clients and selling sexual
services; others consume drugs (up to 10%) and exchanging sex for drugs; condom
use is low and negotiations skills insufficient. 60% of Syrian LGBT are not aware
about services & don’t benefit from any. Respondents stated have faced problems
due to their sexual orientation or sexual activity, 39% subjected to psycho, violence
and 49% abused in Lebanon.

Conclusions: The growing numbers of Syrian LGBT demanding services from SIDC and
other civil society organizations when they are approached through outreach
activities, confirms the need for an urgent response, adding the challenge of pro-
viding access to quality health care for Syrian refugees especially when it comes
to areas related to sexuality and harm reduction that are considered taboo, and
considering that asylum seekers have less access to health care settings and are re-
luctant to disclose these issues. Despite ongoing HIV-prevention efforts by national
and humanitarian partners, it is important to ensure that needs of the Syrian KP are
prioritized in the humanitarian and national HIV response. This requires a tailored
strategic response where sexual health, HIV, and STI care are positioned and inte-
grated within the humanitarian agenda for this population. This would not be pos-
sible without integrating peer education, tailored care services and specific training
for providers & promotion activities enhancing a tolerant environment.

**THPEC190 CHANGING THE PARADIGM: HIV RISK AND VULNERABILITY OF LOCAL COMMUNITIES DUE TO MINING AND INTERNAL MIGRATION IN UGANDA**

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Background: Mining communities in Uganda experience rapid population influx and
internal mobility dynamics rendering them vulnerable to ill health including HIV and
AIDS. We examined social and behavioral dynamics that increase vulnerability to
HIV among mine host communities.

Methods: mix-methods cross sectional study was among 228 randomly selected migrants and members of the host communities conducted from February to December 2015 in extractive industry sites across 3 regions of Uganda. Qualitative interviews were held with migrants and members of the host communities, health care workers and other key stakeholders. Logistic regression for association be-
 tween migrant status and HIV risk behavior/outcomes was performed using STAT
A 13.[MM1] Qualitative data were analyzed using a content and thematic approach.

Results: Migrants compared to local mining community members were of a better socioeconomic status -higher education level, higher qualified jobs and employed in larger industrial mines. Only 15% of participants reported condom use during last sexual sex in the past 12 months. Migrants were twice as likely to report sexually transmitted infections (OR 2.7, 95% CI 1.19-6.22, p<0.01) and had more knowledge of where to access an HIV test (0.11, CI 0.02-0.55) than community members. Migrants iden-
tified themselves 2.9 times more at HIV risk than mining communities (OR 2.97, 95%
CI 1.62-5.44, p<0.001), . non-migrants overall had more risky behaviours than the general population (Uganda DHS data).- Vulnerability to HIV among local host com-
 munity members stems from emergence of sex-work activities in areas surrounding
 mining sites; inconsistent condom use; alcohol and substance abuse; and poor
 access to HIV prevention and treatment services in mining communities. Whereas
 miners and extractive industry workers display high-risk sexual behaviors known to
 predispose people to HIV, migrants seem largely aware of the risk, have access to in-
 formation and better health services (including health insurance) and are of higher
 social status than the mine host communities.

Conclusions: Current prevention efforts should be more focused to addressing in-
ternal mobility dynamics and reducing HIV vulnerability in local communities in min-
ing sites while embracing a “space of vulnerability” approach to migration-affected areas.

**THPEC191 A PROFILE OF AFRICAN, CARIBBEAN AND OTHER BLACK PEOPLE IN HIV CARE IN ONTARIO**

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Background: In Canada, people from countries with generalized HIV epidemics in
Africa and the Caribbean have higher rates of HIV compared to the general popula-
tion. From 2009 to 2013, African, Caribbean and Black (ACB) people represented
about 5% of the population of Ontario but 25.2% of new HIV diagnoses. The objec-
tive of this analysis was to establish a socio-demographic profile of ACB people living
with HIV in care in Ontario, Canada.
Exploring HIV vulnerability among migrant workers and their spouses in Egypt

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Background: Egypt sends more than two million migrant workers to work abroad apart from internal migration from rural to urban areas. Research from other countries showed an increased vulnerability of migrant workers to HIV infection due to increased stressors and lack of social support. In the Middle East North Africa region, most women who are infected with HIV reported not engaging in risky behavior of their own suggesting contracting the infection through having unprotected sex with their husbands. The study aimed to understand risk factors faced by migrant workers and women married to migrant workers in Egypt.

Methods: In-depth interviews were conducted with 20 external migrant workers, 20 internal migrant workers and 20 women married to migrants (external or internal). This study examined the perception of HIV risk for themselves and wives, disclosure of risky behavior to wives, experience with the health system and dynamics of the marital relationship. The study was implemented in a number Egyptian Governorates that send men to work in Western or Gulf countries in addition to tourism attractions with prevalent internal migrants.

Results: Migrant workers (specifically internal ones working in tourism) and external migrants in Western countries were practicing multiple risky behaviors, having limited HIV related information and negative attitudes towards condoms. None of them knew about HIV testing services available in Egypt and were afraid to approach such services because of HIV related stigma. Women married to migrant workers did not perceive themselves at risk for acquiring HIV. Their vulnerability was further exacerbated by prevalent gender norms and economic dependence on their husbands that render them powerless to discuss their husbands’ risky behavior or negotiate condom use.

Conclusions: Targeted interventions should be directed at both internal and external migrants and should focus on HIV awareness-raising, safer sex through consistent and correct condom use, and creating a cadre of peers that could provide psychosocial support and HIV counseling to migrant workers. Concurrently, efforts should be made to raise HIV awareness of women and empower them (e.g. microloans, vocational training) as well as addressing inequitable gender norms among both men and women.

Lessons learned from a cross-border cooperation for HIV/AIDS prevention and impact mitigation, Southern Caucasus and Russian Federation

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Background: The project was initiated in response to the alarming situation of high migration rates contributing to the spread of HIV/AIDS in the Southern Caucasus. It was implemented from April 2012 to May 2014. Among other things, the project aims at strengthening HIV/AIDS services, especially to migrant workers. All the four countries have experienced increasing problems concerning HIV and migration e.g. Armenia has estimated 50-60,000 seasonal migrants every year and 75% of new cases of HIV are reported from seasonal migrants.

Description: The project’s main activities included: establishing a regional working group with the participation of Government, NSA’s and international organizations; facilitate capacity building training’s, review a set of existing HIV/AIDS education materials before distribution and facilitate the development and implementation of regional action plan and the design and implementation of 23 advocacy campaigns.

Lessons learned: The project address the link between HIV and migration involving countries where migrants are coming from and the country serving as a destination. This helped to find a joint solution for a regional problem. The project was effective in reaching families of migrant workers that resulted in an increase in testing levels. One notable contribution of the project was its influence in the inclusion of migrants as vulnerable groups in the Caucasian National AIDS strategy. The project produced several documents, such as Policy and Service Gap Analysis, which helped to address the problems of HIV and migration in the region. Some of the hindering factors addressed by the project include:

(1) The high cost of travel to testing centres and stigma associated with HIV in Armenia and elsewhere in the region.
(2) Migrants in the Russian Federation often avoided getting tested officially, for fear of losing their legal residential status in the event of a positive test results.

Conclusions/Next steps: Government and civil society should utilize the regional network created within this project in future programmatic plans, since strong ties have already been established and the network can be extremely powerful in mobilizing communities and channeling their experience in delivering programmatic goals. Regional cooperation among nations for HIV prevention will significantly contribute to access to health services to migrant workers.

Prevention for HIV serodiscordant couples

SEXUAL NETWORKS AND GENETIC LINKAGE OF HIV TRANSMISSION FOR HIV SERODISCORDANT COUPLES FROM A RURAL PREFECTURE OF EASTERN CHINA

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Background: A large number of HIV infections occur within married couples in China. The aim of this study is to combine information of both epidemiological and genetic scales to characterize and analyze the potential HIV transmission within married couple among treatment-naive HIV infections.

Methods: A total of 27 HIV serodiscordant positive couples were investigated in Taizhou prefecture, China. HIV transmission pairs within-couples were determined by the combination of both sequences of the protease and reverse transcriptase coding regions based on HIV pol gene and behavioural analysis.

Results: Of 27 spouses first diagnosed, 12 were defined HIV late diagnosis, 26 were identified through HIV testing during medical care or HIV testing before surgery. Male spouses were more likely to report having two or more sexual partners in the past year prior to HIV diagnosis than female spouses (88.9% vs. 37.0%). 24 of 27 sexual networks were determined to be HIV transmission pairs (20) or potential transmission pairs (4), three couples were subtyped with discordant HIV subtypes or large genetic distance and thus had different sources of HIV transmissions.

Conclusions: The findings of this study underscore the importance of integration of behavioral and molecular evidence to identify HIV transmission pairs and reconstruct the HIV transmission network within married couples.
The results provide enhanced evidence for urgently developing tailored prevention strategies for network-based preventive measures, such as couple-based HIV counseling and testing (CHCT) services for HIV-discordant mixed couples to reduce HIV secondary transmission.

**THPEC195**

**The Power Health Program: A novel, online, multi-modal educational intervention for HIV-negative women and their male partners**

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**Background:** Many women and men in HIV serodifferent relationships want to experience parenthood. Advances in HIV treatment and prevention, such as pre-exposure prophylaxis and treatment as prevention, can facilitate safer conception within the context of serodifferent relationships. Despite these advances, many couples are unaware of and/or are unable to navigate medical systems to gain access to safer conception options.

**Description:** The Positive Outcomes For Women Engaged in Reproductive (POWER) Health program consists of a web-based, multi-modal educational curriculum catering to HIV-affected male/female couples and aims to empower couples to take control of their reproductive and sexual health. Harnessing the growing number of technological tools now available, the POWER Health team reaches their audiences using a web portal (www.hiveonline.org) containing an array of materials such as patient and provider educational brochures as well as leveraging social media outlets e.g., Facebook, Twitter, Google+ Hangouts in novel ways.

We routinely film videos depicting interviews with sexual and reproductive health experts including providers and researchers as well as filming videos with patients, writing blogs, and creating brochures using accessible language. All patient materials are reviewed by consumers and published in both English and Spanish.

**Lessons learned:** From February 2015 – January 2016, 47 unique POWER Health educational “pieces” were developed and posted online. These pages reached 4079 views across 5 continents (North/South America, Africa, Australia, Europe). The most widely accessed pages included: “My TasP Conception Story” (420 views), “Ben Banks Thriving and Fatherhood with HIV” (860 views) and “Sex Workers in Nigeria Need PrEP” (387 views).

As the year progressed, the number of viewers grew exponentially signaling gaining in popularity. For example, one viewer wrote “This gives me hope…” - a sentiment expressed in the comments that viewers offered in reaction to blogs, videos or social media conversations.

**Conclusions/Next steps:** The POWER Health project is reaching its intended audiences in novel ways. For example, one viewer wrote “This gives me hope…” - a sentiment expressed in the comments that viewers offered in reaction to blogs, videos or social media conversations.

**Results:** Of 5,817 partners who initiated ART during follow-up, 58% were women, the median age was 34 years, and most (98%) were married. At enrollment, HIV-1 infected partners reported a median of 4 sex acts (IQR 2-8) with HIV-1 uninfected partners in the prior month and 6% of HIV-1 infected men reported condomless sex with other partners. Trichomonas vaginalis was the most prevalent STI, detected in 10% of women and 2% of men. HIV-1 infected partners were followed for 864 person-years before ART initiation and 771 person-years after ART. Median CD4 and plasma viral load at ART initiation were 277 cells/µl and 4.18 log10 copies/ml, respectively. ART use was associated with a significant decrease in condomless sex acts with HIV-1 uninfected partners (0.8 vs. 0.4 per month; adjusted decrease 36%; 95% CI: 25%, 45%, p< 0.001), but not condomless sex acts with other partners (1.6 vs 1.1 per month; adjusted change 6.2%; 95% CI: -27%, 20%; p=0.63). Pregnancy incidence was lower after ART (13.2 vs 8.4 per 100 person-years; HR 0.71, 95% CI: 0.60-0.84, p< 0.001). Incident STI diagnoses were similar (8.3 vs 8.7%; OR 1.05; 95% CI: 0.86-1.29, p=0.63).

**Conclusions:** Risky sexual behavior, as indicated by unprotected sex and pregnancy incidence significantly decreased after ART initiation among East African HIV-1 infected persons with known HIV-1 uninfected partners. These data are reassuring that substantial risk compensation does not immediately follow ART initiation.

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**THPEC197**

**Prevalence and Factors Associated with Disclosing HIV Status to Wife Among Married HIV-Positive Men Who Have Sex with Men and Women in China**

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**Background:** Men who have sex with men and women (MSMW), functions as the bridge in transmitting HIV from high-risk group (MSM) to low-risk group (general female). A large proportion of them would enter into marriage eventually, especially in the Chinese Setting. Due to the double-stigmatized identity, few of them disclosed HIV status to their wives. To date, factors associated with disclosing HIV to wife are highly under-investigated among HIV positive MSMW in China. We aimed to investigate factors associated with HIV disclosure to wife among HIV positive MSMW in China.

**Methods:** We conducted a cross-sectional anonymous survey among HIV positive MSMW, who ever married with a female, and aged 18 years or older from four cities of China between January to August, 2015. Participants’ recruitment was facilitated by local collaborators. After telephone screening by CDC staffs and MSM peers, all eligible participants were invited to join. Formal written consent was obtained before the face-to-face interview. We used individually structured questionnaire to measure characteristics of the HIV positive MSMW and their wives, as well as factors about their relationship and backgrounds.

**Results:** Our analysis included data for 259 HIV positive and married MSMW. Prevalence of disclosing HIV status to wife was 61.4%. For the HIV positive MSMW, the majority were older than 35 years (74.0%) and on antiretroviral therapy (ART) (84.7%). With regard to wife, very few were HIV positive (6.6%); 68.3% kept this relationship for over four years; half (44.8%) had inconsistent condom use in the past month; one fifth (22.8%) already disclosed homosexual identity to wife. After adjusting for significant backgrounds (living with wife), participants were more likely to disclose HIV to wife, with clinical symptoms related to HIV/AIDS (AOR=2.59, P< 0.05), on ART (AOR=4.65, P< 0.001), already disclosing homosexual identity (AOR=12.69, P< 0.001), known HIV status of wife (AOR =4.70, P< 0.001). No association was found between inconsistent condom use and disclosing HIV.

**Conclusions:** Less than half of the HIV positive Chinese MSMW will hide their HIV status from their wives. Interventions to encourage HIV status disclosure should target at identifying HIV related symptoms and promoting partner to do HIV testing.
Background: For HIV-serodiscordant couples, providing pre-exposure prophylaxis (PrEP) for the HIV-uninfected partner as a “bridge” to antiretroviral therapy (ART) initiation for the HIV-infected partner reduced incidence by 96% in the Partners Demonstration Project. The cost-effectiveness of PrEP has not been estimated given realistic adherence, which was high but imperfect in the Demonstration Project.

Methods: We used an individual-based mathematical model of HIV transmission among serodiscordant couples in Kenya and Uganda that includes HIV transmission according to viral load, daily PrEP adherence from electronic monitoring data, tenofovir pharmacokinetics/pharmacodynamics, external sexual partners, and empirically cost estimates. PrEP use was simulated for the HIV-uninfected partner until six months after the partner’s ART initiation under three scenarios (ART at CD4 counts <350 cells/µl, <500 cells/µl, or universal ART). We estimated the incremental cost-effectiveness ratio (ICER) for a PrEP intervention over the couples’ lifetimes and constructed a cost-effectiveness acceptability curve to determine the probability of cost-effectiveness under a range of circumstances and the potential cost to identify each couple for PrEP use.

Conclusions: Providing PrEP to the HIV-uninfected partner in a high-risk serodiscordant couple as a bridge through six months after ART initiation for the HIV-infected partner has a high probability of being cost-effective in Kenya and Uganda.

**THPEC200**

**COMMUNITY LEADER’S ENGAGEMENT TO BRIDGE THE GAP OF PMTCT IN POST CONFLICT ZONES OF BAKASSI IN THE SOUTH-WEST REGION OF CAMEROON**

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Background: With a population of 19.4 million inhabitants, Cameroon faces one of the most severe HIV epidemics in West and Central Africa with prevalence amongst pregnant women being 7.8%, and much higher prevalence in hard to reach post conflict communities. In Bakassi, the prevalence amongst women is reported to be above 20% and thus a call for concern. We sought to pilot a project which engages community leaders as pace setters to influence, educate, and bridge the gap of PMTCT between the community and health facilities in Bakassi.

Description: A community centered approach was used in the project. The project areas were; Bamusso, Isangele and Kombo Abedimo councils and entailed (1) conducting a qualitative research in 23 communities to ascertain the difficulties faced by women in post-conflict areas in accessing PMTCT services; (2) training of community leaders; (3) raising community awareness on PMTCT through educative and home visits; and (4) creation of community health task forces (CHTF). The project ran from April 2014 - December 2015.
Lessons learned: The research results revealed the presence of constant threat of kidnapping attacks, difficulty in accessibility to health facility causing pregnant women to give birth at home or in churches, poor communication network, cultural/religious beliefs that impede PMTCT access. 100 community leaders were trained to become leaders in PMTCT. A total of 10,718 persons were reached with the model in its ability to change behavior in this high-risk population.

Conclusions/Next steps: Community leaders form an indispensable cadre within communities having a vital role to play in the HIV response. Thus a need to strongly involve them in preventing mother to child transmission of HIV in post conflict zones.

THPEC202

ASSESSING THE IMPACT OF A VIDEO-BASED MODEL TO ENGAGE AN URBAN PSYCHIATRIC INPATIENT COHORT IN THE PROCESS OF HIV TESTING AND EDUCATION

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Background: Several studies have shown that a large proportion of mentally ill adults exhibit high risk factors for contracting HIV. However, testing rates and knowledge about HIV among this population are low. This project was implemented to develop a new model to engage high-risk patients in an urban inpatient setting in the process of HIV testing and education using a behavioral skills video.

Description: During weekly small group sessions held by a staff nurse and trained PHA (Public Health Advocate), psychiatric patients were given a pre-video survey to determine baseline HIV knowledge, risk factors, perceived risk, and HIV test acceptability. A short behavioral skills video developed by Project B.R.I.E.F was then screened. After watching the video and participating in a small group discussion, patients were asked to complete a post-video survey asking the same questions as at baseline.

Lessons learned: 17 psychiatric inpatients participated in the educational video screening. 53% of participants were male, and 41.2% of patients were homeless in the past six months. Risk factors, as per CDC criterion, were: multiple sex partners (35.3%), injection drug use (17.6%), sex for commodities (17.6%), or having a sexual transmitted disease (23.5%). Common psychiatric diagnoses were: Schizophrenic/Psychotic/Affective (41.2%), Depression (17.6%), and Bipolar (17.6%). HIV testing acceptability increased from a baseline of 50% to 61% after the video screening. Participation in the group session was associated with improved HIV knowledge (as shown by the survey indicators in the table).

<table>
<thead>
<tr>
<th>Measure* (N=17)</th>
<th>Baseline</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-related knowledge questions</td>
<td>5.41</td>
<td>6.11</td>
</tr>
<tr>
<td>Intention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To use condoms during every future sexual occasion</td>
<td>4.88</td>
<td>5.05</td>
</tr>
<tr>
<td>To use condoms after drinking</td>
<td>5.12</td>
<td>5.00</td>
</tr>
<tr>
<td>To insist on condom use with resistant partners</td>
<td>4.53</td>
<td>5.12</td>
</tr>
<tr>
<td>To discuss HIV/ AIDS with sexual partners</td>
<td>5.06</td>
<td>5.35</td>
</tr>
<tr>
<td>To use condoms during the next sexual occasion</td>
<td>4.82</td>
<td>5.12</td>
</tr>
</tbody>
</table>

*Scores on knowledge about HIV were based on the number of correct responses to 9 true or false questions. Intervention responses were on a 6 point scale ranging from 1, strongly disagree to 6, strongly agree (adapted from Kalichman et al., 1992).

Conclusions/Next steps: A video-based HIV educational intervention, in conjunction with targeted group sessions, can be implemented in an inpatient psychiatric setting to promote HIV testing and improve HIV knowledge among a mentally ill cohort. These preliminary findings support further continuation of the program to target a larger inpatient audience. Future analysis should include prospective evaluation of the model in its ability to change behavior in this high-risk population.
categorical variable: No-risk (0); Moderate-risk (1-2); and High-risk (≥3). We compared the intervention and control groups on SRI change from baseline to 3 months FU by bivariate analysis at baseline and 3-Month FU (χ² test), and linear growth model (LGM; Mplus 7.4) using Maximum Likelihood with Robust standard error (MLR) estimator.

**Results:** Demographic and clinical characteristics and HIV-risk behaviors of the two arms did not differ (successful randomization). Participants were female (56.0%); with a mean age of 43.3 years; multiracial (47.4%), white (32.8%), or black (20.3%); 46.1% married/long-term relationship, 34.7% single, and 18.5% separated/divorced/widowed. The majority (72.4%) of participants had diagnoses compatible with severe mental illness: schizophrenia (35.3%); bipolar disorder (21.1%); depression with psychosis (9.3%); schizoaffective disorder/psychosis NOS (6.7%); and common mental disorders (27.6%). 1.9% had comorbid substance use disorders. At 3-Month FU, the proportion of High-risk was lower in the HIV compared to the control group. The LGM showed that patients in the HIV group were less likely to report High-risk behaviors.

**Conclusions:** Investing in behavioral interventions in low-resource settings is feasible and worthwhile. Our findings highlight opportunities for global implementation.

### THPEC204

**USE OF DENTAL DAMS AMONGST WOMEN WHO HAVE SEX WITH WOMEN (WSW) COMMUNITIES IN BOTSWANA, LESOTHO, MALAWI, SOUTH AFRICA, SWAZILAND, ZAMBIA AND ZIMBABWE: A QUALITATIVE STUDY**

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**Background:** Despite the pervasive belief that WSW are a low-risk group, WSW are vulnerable to HIV/STI infection through sexual and gender based violence, sex with men, and to a lesser extent, sexual contact with HIV positive WSW. Barrier methods such as condoms have been shown to be effective. WSW are motivated to use effective barrier methods and dental dams in national WSW interventions. Interventions should simultaneously provide mechanisms for WSW to learn about dental dam use and modes of HIV transmission amongst WSW. Further research is needed to improve product design of dental dams and to ascertain levels of use amongst MSM.

**Methods:** Thirteen LGBTI organisations in Southern Africa, distributed 10,000 dental dams to approximately 5% of their existing WSW clients. IEC material on dental dam use was also provided. Convenience sampling was used to recruit individuals who access the organisation’s services, who identify as lesbian, bisexual, transgender or gender non-conforming women, and who agreed to participate in the pilot study. Data was collected via a self-report questionnaire (n=100). Furthermore, a self-report questionnaire was administered to outreach workers who distributed the dental dams (n=13). Data was analysed using thematic content analysis with a set of a priori concept-driven codes.

**Results:** The majority of participants reported feeling motivated to use dental dams out of a desire to protect themselves and use them for oral sex. Many cited difficulties in using dental dams, dams being too small, a desire for pleasure and intimacy weighted above safety needs, knowing a partner’s status, and trusting a partner as reasons motivating non-use. Most indicated hearing about dental dams from LGBTI organisations but that widespread unavailability and not knowing where to get one were issues prohibitive to use.

**Conclusions:** Southern African LGBTI organisations should consider inclusion of dental dams in WSW programmes and should lobby government for inclusion of dental dams in national WSW interventions. Interventions should simultaneously provide mechanisms for WSW to learn about dental dam use and modes of HIV transmission amongst WSW. Further research is needed to improve product design of dental dams and to ascertain levels of use amongst MSM.

### THPEC205

**MEASURES TO ASSURE QUALITY AND ACCURACY OF COMMUNITY-BASED HIV TESTING ON A LARGE SCALE: LESSONS LEARNT IN THE HPTN 071 (POPART) TRIAL IN ZAMBIA**

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**Background:** Community-based HIV testing must be expanded if we are to reach the UNAIDS target of 90:90:90 by 2020. However to ensure the accuracy of test results, quality assurance (QA) programmes must be scaled up and monitor all aspects of HIV testing. Zambia had no guidelines for monitoring the quality and accuracy of HIV testing in community settings, and so a comprehensive QA programme was developed within the Zambian HPTN 071 (PopART) sites. This analysis presents details of that programme and the lessons learned so far in its implementation.

**Methods:** A comprehensive QA programme for community HIV provider (CHiP) HIV testing was developed which included: training and supervision of CHiPs in HIV testing; temperature monitoring of test kits; quality control (QC) of test kits; and annual HIV proficiency testing using blinded samples. Standard Operating Procedures (SOPs) were developed to guide HIV counselling and testing, with checklists for monitoring.

**Results:** Training: 412 CHiPs and 19 CHiPs supervisors were trained and certified in finger-prick HIV rapid testing. Quarterly refresher training of HIV testers was conducted. Supervision: Each CHiP supervisor performed up to 3 accompanied visits per week in order to observe HIV counselling and testing procedures, and ensuring that each CHiP was observed at least 12 times per year.

**Temperature Monitoring:** When temperatures rose above the recommended storage temperature of 27 °C for more than 3 consecutive days, QC of test kits at the affected sites was performed. In the 3 (of 8) sites where this occurred during the review period, the pass rate was 100%. QC of test kits was performed on 4,534 HIV test kits with 100% pass-rate (Table 1).

**Proficiency testing:** Internal proficiency testing was passed by 426/442 (96.4%) CHiPs, while external QA by national reference laboratory was passed by 424/439 (96.6%). The CHiPs who failed HIV proficiency panel testing were retrained and subjected to second test which recorded 100% pass.

**Conclusions:** Developing, implementing and sustaining a quality assurance programme for HIV rapid testing under field conditions in resource-limited settings is feasible. Success depends on high-quality materials and training, adherence to SOPs, excellent supervision and communication, and dedicated staff.
FACE 208
FACTORS ASSOCIATED WITH UPTAKE OF EARLY INFANT MALE CIRCUMCISION BY MOTHERS AND FATHERS IN WESTERN KENYA: MTOO MSF/MILIBI STUDY

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Background: As countries in sub-Saharan Africa scale up medical male circumcision (MMC), they are considering long term sustainable strategies, including early infant male circumcision (EIMC). This study tests two models of integrating EIMC with existing maternal child health structures in Kenya.

Methods: A standard delivery package (SDP) included training health providers in four health facilities to deliver safe EIMC and all health facility staff to educate, promote and mobilize mothers in antenatal, maternal child health and immunization clinics and surrounding communities. A SDP-PLUS model included all SDP activities in four facilities plus provision of EIMC services in the community by trained domiciliary midwives. A weighted random sample of mothers over age 15 years bringing sons to facilities for OPV-1 were interviewed and, with mother’s consent, fathers were contacted and interviewed. Parents whose sons were circumcised and not circumcised were compared on demographic variables, reasons for choosing or declining EIMC, involvement of spouse in the decision, and circumcision status of the father in univariate and multivariate analyses.

Results: Among 987 mothers, 255 (26%) had their sons circumcised. There were no differences between mothers who had their sons circumcised and those who did not in age (median=24 yr), ethnic origin (96% Luo), primary reason for circumcision (HIV/STI prevention) nor HIV status (30% positive). Mothers with post-secondary education (PR=1.5; 95%CI:1.1-2.1), who were unmarried (PR=1.6; 95%CI:1.3-2.0), received prior information about EIMC (PR=10.6;95%CI:3.5-32.6), had a circumcised husband (PR=1.9;95%CI:1.4-2.1), and were in the SDP-PLUS community (PR=1.3,95%CI:1.1-1.6) were more likely to have their son circumcised. In multivariable analyses, unmarried mothers (PR=1.5), those with circumcised husbands (PR=1.3) and those in the SDP-PLUS community (PR=1.3) were significantly (p<0.01) more likely to have their sons circumcised. Among 634 fathers, after adjustment for age, marital status and education, those who were circumcised (PR=2.9,95%CI:1.3-2.9) and in the SDP-PLUS community (PR=1.3,95%CI:1.1-1.6) were more likely to have their sons circumcised.

Conclusions: A community-based versus facility-based education and services model results in greater uptake of EIMC. Acceptance of EIMC is likely to increase as more adult men in a population become circumcised. These results contribute evidence needed as countries transition from adult to infant circumcision.
Results: Among the 212 uncircumcised men, 69.3% (147/212; 95% CI: 62.9% to 75.3%) agreed to be circumcised, which corresponds to the uptake. The MC prevalence of the sample increased from 56.9% (296/522) to 84.9% (443/522; 81.6% to 87.7%), p< 0.001. The reported reasons for accepting circumcision were motivational talks with the MC adviser (83.0%), and time compensation (40.0%).

Conclusions: High VMMC uptake can be obtained in a short time among male adults but requires an intense intervention centered on uncircumcised men at an individual level and time compensation. The effect of this novel intervention should now be tested elsewhere.

**THPEC211**

**GETTING MEN INTO 90-90-90: THE POTENTIAL ROLE OF MEDICAL MALE CIRCUMCISION SERVICES IN KWAZULU NATAL, SOUTH AFRICA**

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Background: Meeting the UNAIDS targets for 90-90-90 will require strategies to reach more men with HIV counselling and testing and ART services. In South Africa men have lower rates of HIV testing, more men are unaware of their HIV positive status than women (62% versus 45%) (Shisana, Rehle et al; 2014) and men tend to access HIV services in the public sector later and with poorer health outcomes (Ramkisson et al,2011). Medical male circumcision (MMC) services have the potential to provide an entry point to HIV care for males.

Description: Routine data on 68,627 men accessing MMC services during October 2012-September 2015 in 4 districts in KwaZulu-Natal was reviewed to determine uptake of HIV testing, men newly diagnosed as HIV positive, geographic location and acceptability of services.

Lessons learned: Of the 68,627 men accessing services, 64,900 (95%) were either tested on site (70%) or had been tested within the last 3 months (25%). Only 5% of males refused the voluntary HIV test. 4% were newly diagnosed as HIV positive. Most (97%; n=66,299) of those accessing services underwent MMC procedures, 91% of whom were HIV negative, 4% HIV positive and 5% did not know their status. 80% of males accessing MMC services were 10-24 years. 91.4% received services at a public sector hospital/clinic, 5.5% at a general practitioner and 0.4% in a correctional service. Prevalence rates were highest among prison populations (38.5%) and in informal settlements (7.88%).

Conclusions/Next steps: Men are willing to attend free MMC services in the public sector or at general practitioners and the majority consented to HIV screening services as part of this package. This is an opportunity to screen males for TB, STI and refer men for CD4 tests and ART. MMC services provide a feasible and acceptable way of getting males into HIV services and should be scaled up.

**THPEC212**

**DESCRIBING THE ROLE OF WOMEN IN PROMOTING MEDICAL MALE CIRCUMCISION TO ADULT MEN IN A PERI-UrBAN CLINIC OF SOUTH AFRICA: FINDINGS FROM THE IMBIZO STUDY**

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Background: HIV prevalence is high (20.9%) in South Africa among men aged 25-49 years. Medical male circumcision (MMC) reduces the risk of HIV infection in men from heterosexual sex. Few studies have assessed women’s role in promoting MMC. Baseline qualitative data are summarised from a study conducted in a peri-urban setting in Ekurhuleni North, South Africa from April - September 2014 that aimed to increase MMC uptake among older men.

Methods: Adult men (25-49 years) and women (≥18 years) were interviewed in qualitative interviews, using a semi-structured questionnaire. Interviews were digitally-recorded, transcribed, and translated. Through a standard iterative process, a codebook was developed for each sex and used to thematically code the interviews using MAXQDA 10 (males) and QSR NVIVO 10 (females). Inductive thematic analysis was used. Descriptive statistics were calculated.

Results: A total of 35 men and 30 women were interviewed. Men described women as better communicators than men and better equipped to discuss MMC. Some men felt that it is helpful for female sexual partners to recommend MMC for shy men, and most agreed that men would be more likely to pursue MMC if women introduced it. A minority of men felt that women promoting MMC means that the
man is weak and an embarrassment. Women felt that they should use indirect methods of introducing the topic of MMC with their partner, which could include mentioning a magazine article, newspaper report, pamphlet, or media advert while talking to him in a respectful and calm manner. Women emphasized being patient and the use of different opportunities to direct his attention to available MMC information. Some women were also concerned that discussing the topic of MMC with their partners might make them suspicious about their fidelity. Women also perceived educated females as being less constrained when talking about MMC to their partners when compared to those who followed exclusive traditional roles. Conclusions: Innovative approaches to demand creation to increase MMC uptake among men aged 25-49 years are especially important given the high HIV prevalence and low MMC uptake in this age group. Men and women are largely supportive of women promoting MMC.

THPEC123
ARE MEN AT HIGH-RISK LIKELY TO ACCEPT VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC)? A COMPARISON OF VMMC CLIENTS AND DEMOGRAPHIC AND HEALTH SURVEY (DHS) PARTICIPANTS IN TANZANIA

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Background: We conducted a cluster randomised trial to evaluate an intervention to increase VMMC uptake among men aged 20-34 years in Tabora and Njombe regions, Tanzania. Findings showed that the intervention increased the uptake of VMMC in men for all age groups in the 10 intervention clusters compared to the 10 control clusters. The aim of this sub-study was to compare the behaviour risk profile of a sample of the VMMC clients to that of uncircumcised men in the general population in Tanzania.

Methods: Approximately 20% of the VMMC clients aged 20-34 years participating in the study were randomly selected to complete an interviewer-administered questionnaire which addressed risk behaviour, user costs, and decision-making around VMMC. The behaviour parameters were compared with similar parameters collected in the last DHS survey (2010) from uncircumcised men in the 12 VMMC priority regions in Tanzania.

Results: A total of 331 men aged 20-34 years participated in the sexual behaviour survey, and 195 in the 2010 DHS. VMMC clients were younger than the DHS participants, and after adjusting for age, they were more likely to report two or more sexual partners (adjusted OR=2.73, 95%CI 1.85-4.02; p< 0.001), and to report unprotected sex with non-marital and non-cohabiting partners in the past 12 months (adjusted OR=1.81, 95%CI 1.12-2.9; p=0.003). The mean age at first intercourse was 17.7 years in the behavioural survey participants and 16.7 years among DHS participants (age adjusted test of significance p< 0.001).

Conclusions: Men who accepted VMMC reported more risky sexual behaviour compared to men in the general population. These findings suggest that VMMC is reaching men at a relatively high risk of HIV, and increasing uptake of VMMC through demand creation activities in adult men will continue to reduce HIV acquisition and transmission.

THPEC124
EFFECTIVENESS OF MOBILE CLINICS OFFERING VMMC IN MARGINALISED COMMUNITIES AS AN HIV PREVENTION INTERVENTION

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Background: Evidence shows that a large number of males would have to undergo VMMC in order to have a population level impact on HIV prevalence in South Africa. The challenge lies in increasing VMMC uptake in South Africa, especially in marginalised communities with limited healthcare facilities. Mobile clinics offering free VMMC services aim to increase uptake in hard-to-reach areas.

Description: The mobile clinic is a basic medical clinic inside a container van that travels directly to the community and remains static for a limited period of time, before moving to another area. The mobile clinic site was first located in Shoshanguve, Gauteng (October 2013-March 2014). After identifying areas where there was little to no VMMC coverage, the team moved to Mathibestad, Northwest Province (April 2014), and Parys, Free State, (July 2014). In Mathibestad, the mobile clinic is situated next to a public clinic.

Lessons learned: From 2013 to present, the mobile clinics program cumulatively circumcised 8151 males (see figure). The advantage of the mobile clinic is its mobility to move to and within communities. However, the mobile clinic remains static in the community as a result of the large size of the mobile clinic. This requires the outreach team to travel within the community and recruit clients, as well as offer transportation to bring clients to the mobile clinic site.

[VMMC Procedures Performed Using Mobile Clinics]

Conclusions/Next steps: Although mobile clinics have contributed to VMMC uptake, the effectiveness of the mobile clinics would increase by using smaller mobile clinics that can move within the area, compared to large mobile clinics that remain static and therefore require transportation for clients. The relationship between the public healthcare facilities and mobile clinics is critical in ensuring that clients feel safe knowing that the public clinic is associated with the mobile clinic; as well as for referrals to the mobile clinic.

THPEC125
DOES MALE CIRCUMCISION INDIRECTLY REDUCE FEMALE HIV RISK? EVIDENCE FROM FOUR DEMOGRAPHIC AND HEALTH SURVEYS

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Background: Although the World Health Organization now recommends routine male circumcision to reduce risk of HIV infection, studies of whether male circumcision (MC) reduces HIV transmission to their female partners indicate no additional protective effect. However, women are theorized to indirectly benefit from increased rates of MC as rates of transmission will be lower overall. To date, there has been limited research directed at exploring the influence of MC on the women’s HIV risk, and there are currently no estimates that account for the indirect protective effect of MC for women. This study examines the potential benefit of MC for women accounting for individual and population level risk factors using couples data from Demographic and Health Survey (DHS) collected between 2003-2010.

Methods: This study assessed HIV risk among women from a sample of 11,621 couples from Kenya (2003, 2008), Lesotho (2004, 2009), Malawi (2004, 2010), and Zimbabwe (2006, 2010). We examined the relationship between a woman’s HIV status, her partner’s circumcision status and regional rates of male circumcision using multivariate regression models. We then adjusted all models for male and female sexual behaviors (multiple partners) and demographic characteristics (age, wealth, and education).

Results: Neither regional rates of male circumcision nor their partner’s circumcision status were associated with lower odds of HIV infection in women once individual’s sexual behaviors and demographic characteristics were accounted for. Having multiple partners was associated with higher odds of HIV infection in women [OR=3.32, p< 0.01] as was having an older male partner [OR=1.03, p< 0.01]. Women whose male partners had other partners also had a higher odds of HIV [OR=1.43, p< 0.01].

Conclusions: After adjustment, we found no association between MC and female HIV risk either directly or indirectly though having multiple partners was strongly associated with increased odds of HIV risk. These results suggest that programs aimed at expanding MC may need to be pay additional attention to how the benefits of MC may be offset by the presence of multiple partnerships.
Background: Modeling shows that scaling-up voluntary male medical circumcision (VMMC) services in sub-Saharan Africa to reach 20 million men will avert 3.4 million HIV infections by 2025. As countries scale up VMMC services, patterns and predictors of adverse events (AEs) remain unclear. Factors associated with AEs during six years of program implementation in Iringa, Njombe and Tabora, Tanzania are described.

Methods: A retrospective review of moderate/severe AEs was conducted using client-level data to analyze age of clients, types/severity of AEs, service modalities and surgical techniques. Chi-square test was used for statistical significance and mhdodds test to adjust for age. Mild AEs were excluded.

Results: A total of 497,871 clients were circumcised from 2009-2015. There were 274/497,871 (0.06%) clients with intra-operative AEs (i) vs 365,957 (0.016%) with post-operative AEs. Across all age groups, the most common intraoperative AEs were excessive bleeding; among clients 10-14 years, the most common was glans injury (18/30=67%). All clients with glans injuries had been circumcised using the forceps-guided (FG) method. Across all age groups, the most common postoperative AEs were infections (58%), hematoma (21%) and excessive bleeding (11%). AE rates were higher during campaigns (1,192/368,590=0.33%) compared to routine services (139/48,799=0.29%) (p<0.001). AEs were highest in 15-29 year old clients (193/218,272=0.09% for intra AE; 682/156,950=0.45% for post AE and lower in older and younger age groups (p<0.001). AE rates were higher amongst clients who were circumcised using the FG technique (271/143,927=0.06% for intra AE; 1,115/316,960=0.36% for post AE) compared to dorsal slit (DS) (3/58,364=0.01% for intra AE; 66/48,232=0.14% for post AE (p<0.001). Clients were less likely to have an AE when circumcised with DS compared to FG, even after adjusting for age (AOR = 0.50 p value<0.001).

Conclusions: Although overall AE rates were low, higher rates during the campaigns need to be addressed. Higher rate of glans injuries among 10-14 year-olds when using the FG method, coupled with lower intraoperative AE rate for DS compared to FG underscores the need to adhere to PEPFAR policy guidelines on age appropriate-methods for VMMC.
Evaluating the impact of the voluntary male circumcision (VMMC) program in Zimbabwe

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Methods: We collected statistics on the number of VMMC performed through a review of client intake forms and site registers and conducted on-site verification and Internal Quality Audits. Four modeling groups (Avenir Health, Imperial College London, Jhpiego, AIDSFree, Dar es Salaam, Tanzania, United Republic of) used mathematical simulation models that replicated historical trends in HIV infection. We compared actual trends in new infections with those that would have occurred if the VMMC program had not existed. A modeling workshop reviewed model results and reached a consensus on the most likely impact of the program.

Results: Results indicate that 4,000 - 8,000 infections have already been averted by the VMMC conducted to date. The longer term impact will be much greater as the group of already performed VMMCs will amount to 73,000-75,000 infections averted by the VMMCs conducted to date. The longer term impact will be much greater as the group of already performed VMMCs will amount to 73,000-75,000 infections averted by the VMMCs conducted to date.

Conclusions: The VMMC program in Zimbabwe will have a substantial impact in the coming years. The cost per infection averted is low compared to the costs of treatment. Using multiple models and a stakeholders’ workshop led to strong evidence for action being generated.
across survey years. A multivariable logistic regression model including demographic and geographic variables was used to assess predictors of circumcision uptake. **Results:** 16,892 unique men reported their circumcision status (median age 22 years, IQR: 18-37 years). From 2003 to 2013 circumcision prevalence rose from 5.8% to 17.4% for all males, with the greatest gains in the 15-24 year age group (4.0% to 20.0%). Men in all ten-year age groups 25-34 and above had reduced odds of circumcision uptake compared to the reference age group of 15-24 years. Men in higher asset index quintiles had greater odds of circumcision uptake, and this increased proportionally by each increase in asset index quintile compared to the most deprived. The odds of circumcision uptake decreased with each kilometer from the nearest health facility by 0.89 (95% CI: 0.86 - 0.92).

**Conclusions:** In the past 10 years, circumcision prevalence has increased dramatically in this high HIV prevalence population. While circumcision has increased, this analysis showed the circumcision uptake has been concentrated in certain populations, primarily young men and men of higher SES. Innovate interventions are needed to reach those men still yet to get circumcised.

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**THPEC223 FACTORS THAT MAY EXPLAIN POST-OP WOUND INFECTIONS AMONG ADOLESCENT VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) CLIENTS: QUALITATIVE FINDINGS FROM ZIMBABWE**

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**Background:** Greater than 10 million males have been circumcised through voluntary medical male circumcision (VMMC) programs in sub-Saharan African countries. Although adverse events (AE) have remained low, WHO has reported an increase in severe infection-related AE and has emphasized the need to mitigate post-VMMC infection risk, including proper wound management by clients. This study explored reasons that hinder adolescents’ proper wound management in order to inform risk-reduction strategies.

**Methods:** Between August and September 2015, 20 in-depth interviews were conducted with VMMC adolescent clients (10-19 years) 6-8 weeks post-procedure. Eight focus group discussions (FGDs) were also held with male (n=4 FGDs) and female (n=6 FGDs) parents/caregivers. Discussions explored adolescents’ wound care practices and reasons for non-adherence to wound care instructions. Audio recordings were transcribed, translated into English, and thematically coded.

**Results:** Data suggested that although wound care instructions were adequately articulated and comprehended during counseling, younger adolescents (10-14) failed to recall these instructions. Parents/guardians described having to phone or visit VMMC sites to obtain proper instructions. Adolescents reported misrepresenting instructions to parents/guardians in a bid to avert possible pain from having to dip the wound in saline water for recommended periods. Parents/guardians (mostly female) were often deceived by their sons who pretended to have undertaken proper wound care and only found out when an infection had occurred. Some adolescents reported disregarding clinicians’ instructions and adopting their own/peer-recommended instructions such as using methylated spirit and other substances to “quicken” wound healing. Conversely, adolescents reported parents/guardians disregarding clinicians’ wound care instructions and recommending, for example, larger salt quantities based on their past experiences of caring for non-MC wounds. Both parents and adolescents reported unsafe practices such as boys displaying/touching their fresh surgical wounds with the intention to prove to others that they had been circumcised.

**Conclusions:** This study identified possible explanations for the rising numbers of infections in adolescents. Involving parents/guardians during some of the counseling for younger adolescents and creating age-appropriate materials on wound care will likely be important factors in curbing these infections. Minimizing VMMC-related AE, including post-operative ones, is important to ensure the overall acceptability and sustainability of the intervention.
between the KAB outcomes and exposure to the campaign was analysed for a sub-
set of men aged 15-30 (n=763), who are the primary audience of the campaign.

Results: Of the 763 men interviewed, 63% reported that they were circumcised.
Exposure to the campaign was reported as 46%, i.e. have seen the advert. The likelihood of being circumcised increased monotonically with exposure to the campaign, from 15% at none to 54% at the highest level of exposure. Further behavioural outcomes observed in relation to campaign exposure are: 73% of men reported condom use at last sex (15% at no exposure vs. 51% at the highest level of exposure) and testing for HIV is 43.8% (50.5% at highest exposure vs. 14.1% at none). Knowledge of circumcision benefits as well as post-circumcision care is highest in men who have the highest exposure to the campaign (81% knowing HIV risk reduction benefits at highest exposure vs. 72% at no exposure and 71% ‘wait six weeks’ at highest exposure vs. 67% at no exposure).

Conclusions: The importance of demand creation through mass media cannot be
underscored as shown by the findings of this study. Brothers for Life campaign is an important contributor to the uptake of circumcision and other HIV prevention behaviours such as condom use and HIV testing.

THPEC226
IDENTIFYING UNAWARE HIV-POSITIVE STATUS AMONG HIV-POSITIVE BLACK MEN WHO HAVE SEX WITH MEN IN THE UNITED STATES

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Background: Improving HIV testing uptake to identify unaware HIV-positive individuals is critical to reduce the alarming incidence rates of HIV among Black men who have sex with men (BMSM) in the United States. Understanding demographic, social, and mental health differences between HIV-positive BMSM who know their status and those who do not may help elucidate potential pitfalls in community HIV testing outreach efforts.

Methods: We include observational data collected from the first two years (2014-2015) of the Proving Our Worth, Equality, & Resilience (POWER) Study. Using time-location sampling, POWER recruited BMSM who attended Black Pride events in six major U.S. cities. Participants completed a behavioral health survey consisting of demographic, behavioral, and psychosocial measures in addition to being offered an on-site anonymous HIV test. Unaware HIV-positive BMSM were identified if they reported a negative HIV status within the survey, but provided a positive HIV antibody screening test result obtained from on-site testing. Differences in positive status (aware versus unaware) were evaluated using logistic regression, adjusting for demographic, psychosocial, and mental health variables.

Results: Our analytic sample included 894 HIV-positive BMSM who provided complete responses in our behavioral health survey. Over a third (38.3%) were not aware of their status. Among unaware positives, over two-thirds (67.8%) had been tested for HIV in the prior 6 months. In our bivariate analyses, unaware positive status was associated with lower age and internalized homophobia as well as reporting bisexual identity, low education, and intimate partner violence. Using logistic regression, we found that the odds of being an unaware positive were higher among bisexual BMSM (AOR=2.15, 95% CI: 1.41, 3.31) compared to gay-identified BMSM. Additionally, age (AOR=0.96, 95% CI: 0.95, 0.98) was associated with decreased odds of unknown status whereas internalized homophobia (AOR=1.13, 95% CI: 1.01, 1.04) was associated with increased odds of an unaware HIV-positive status.

Conclusions: Our results show that greater than 1 in 3 HIV-positive BMSM are unaware of their status. Given our significant findings, we identified a number of factors that may inform new approaches to improve outreach efforts and engage BMSM in routine HIV testing practices.

THPEC227
IMPROVING HIV CASE-FINDING THROUGH INTEGRATING HOT SPOT-BASED OUTREACH AND PEER-DRIVEN RECRUITMENT MODELS

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Background: Although HIV testing is the critical entry point for antiretroviral treatment and pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM), fewer than half of MSM in Asia know their HIV status, and outreach-based test promotion has achieved low testing uptake and yield. The USAID-funded LINKAGES program, implemented by FHI 360 in Thailand, introduced an enhanced peer mobilizer (EPM) model to increase rates of HIV testing and counseling (HTC) and to strengthen case finding and access to ARV treatment for HIV-positive individuals.

Methods: EPM was implemented by community-based organizations Mplus Foundation and Caremat as part of a three-year program for MSM in Chiang Mai, Thailand. Under EPM, a small team of trained, salaried Community-Based Supporters (CBS) manage a wider, informal network of incentivized Peer Mobilizers (PMs) to recruit clients from their social networks. Data on client demographics, risk behaviors, and referrals are collected and shared via a digital, mobile data collection system. CBS are informed when a referral is successful and can respond proactively to losses to follow-up.

Results: From July to December 2015, 657 clients were registered under the EPM model and 4,791 were reached via traditional outreach. Clients reached via EPM were significantly more likely to receive an HIV test (72.6% versus 34.4%, p=0.00). Bivariate analysis identified that, under the EPM, clients recruited by PMs via social networking (n=424) did not differ significantly to clients recruited by CBS via hot spot-based outreach (n=266) with regards to self-reported risk behavior, but were more than twice as likely to be HIV positive (10.6% HIV+ compared to 4.9%, p=0.01). Furthermore, 76.7% (n=43) of those diagnosed HIV+ in both groups initiated ART through proactive case management by the organizations. Initiation rates were higher for social network clients than for hot spot clients (81% vs. 58%, p=0.02).

Conclusions: Social network recruitment through an informal pay-for-performance cadre that complements a standard outreach workforce can expand reach, HIV case yields, and ART initiation. Expanded more widely, this outreach model offers a more sustainable and cost-efficient approach to HIV testing and ARV treatment initiation than traditional outreach models.

COMBINATION PREVENTION APPROACHES INCLUDING INTERVENTIONS ON GENDER-BASED VIOLENCE, CASH TRANSFERS AND POVERTY

THPEC228
CAN CASH GRANTS AND CARE BREAK THE CYCLE OF VULNERABILITY? A STUDY OF YOUNG CHILDREN IN HIV-AFFECTED COMMUNITIES ACROSS MALAWI AND SOUTH AFRICA

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Background: Cash transfers have been used to alleviate dire poverty and enhance child HIV outcomes (Pettifor et al 2014). Recent data has shown that cash, and then cash plus care, can reduce adolescent HIV risk behaviours for both girls and boys (Clover et al 2013, 2014). Educational risks are a precursor to sexual risk behaviours (Orkin et al 2014). For younger children cash, or cash plus care, may interrupt negative educational outcomes and thereby divert HIV-infection risk pathways for the future.

Methods: Consecutive children and caregivers (n=1854; 115 HIV+ve) were recruited. Children were coded as in receipt of any of 6 government cash grants. Care was defined as good parenting on a 10 point composite measure. Educational risk comprised five binary variables - incorrect grade for age, irregular school attendance, slow learner, struggling in school, and missing school recently. Cognitive testing used standardized Digit span and Draw a person tests. Associations between grant receipt and educational variables (adjusted and unadjusted for cognitive ability) were tested using logistic regressions and linear regression, and were repeated for care and cash+care.

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Results: Children with HIV were significantly less likely to receive grants (57.3%- vs 75.6% \( p = .01 \)). Controlling for cognitive ability, grants were associated with beneficial educational outcomes. 21.0% of children received either cash or care, and 17.7% received both cash and care. In a linear regression model controlled for general cognitive ability, receiving cash, care or a combination of both was negatively associated with educational risk in a stepwise manner (\(B=0.13, t(811)=2.03, p=.043\)).

Conclusions: Overall, receiving a grant ‘cash’ or good parenting ‘care’ was associated with beneficial educational outcomes: higher enrolment rates, higher odds of being in the correct class for age and higher odds of regular attendance for both girls and boys. Receiving cash plus care did not improve educational outcomes over and above receiving either cash or care alone. For younger children cash grants and good quality care may interrupt the cycle of elevated educational risks shown to increase HIV sexual risks in adolescence. Children with HIV should be specifically included in cash and care provision.

THPEC228
PROJECT SHIKAMANA: COMMUNITY EMPOWERMENT BASED COMBINATION HIV PREVENTION AMONG FEMALE SEX WORKERS IN IRINGA, TANZANIA

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Background: Combination HIV prevention demonstrates significant promise in reducing the impact of HIV. Yet, to maximize its effectiveness, it must be tailored and targeted to those at heightened risk of acquisition and transmission. Community empowerment approaches have been found to be effective in responding to HIV among female sex workers (FSW). No rigorous evaluations of these approaches have been evaluated in sub-Saharan Africa. In response, we are conducting a Phase II trial of community empowerment-based combination HIV prevention among FSW in Iringa, Tanzania.

Methods: A Phase II randomized controlled trial is underway in the high prevalence Iringa region of Tanzania to evaluate the effectiveness of a community empowerment-based response among HIV- and HIV+ venue-based FSW. The project is rooted in efforts to address structural constraints to achieving optimal HIV outcomes by promoting social cohesion and community mobilization to address stigma, discrimination, violence and financial insecurity. Intervention elements include peer-led community education and HIV treatment service navigation, HIV counseling and testing and linkages to care, SMS adherence reminders and support for HIV+ FSW and sensitivity training among HIV care providers. Cohort members are surveyed and screened for HIV and viral load annually.

Results: To date, 254 FSW have been enrolled into an ongoing longitudinal cohort. Baseline HIV prevalence was 39.4%. Only 14% of FSW had contact with a peer educator and less than half had been tested for HIV in the last 6 months at baseline. Among those testing positive, just 37.6% reported being previously aware of their HIV status, and only 2% of those were enrolled in HIV care or on ART, indicating important gaps in the HIV care continuum. HIV and sex work-related stigma, discrimination and violence were prevalent with over half (52%) of the cohort having experienced physical violence and almost a quarter (22%) experiencing sexual violence from a client in the last 6 months.

Conclusions: Community empowerment-based combination prevention which addresses biomedical, behavioral and structural drivers of HIV holds significant promise among FSW in underserved areas of sub-Saharan Africa, where FSW continue to face high disease burden, limited access to HIV services, stigma, discrimination and violence.

THPEC230
WHERE DO THE CHILDREN PLAY? ALARMING LEVELS OF SEXUAL AND GENDER-BASED VIOLENCE IN TOWNSHIP SCHOOLS IN THE WESTERN CAPE: BASELINE DATA FOR A JOINT GRASSROOT SOCCER AND SOUL CITY INTERVENTION

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Background: Sexual and gender-based violence (SGBV) is recognised as a major public health threat and key driver of the HIV epidemic in South Africa. An external HSRC baseline evaluation was conducted of a joint Grassroot Soccer and Soul City programme to tackle Sexual Violence in Schools in South Africa (SeViSSA).

Methods: Baseline surveys were delivered to male and female learners (n=2881; female = 1684; male = 1197) in twenty intervention schools (n=10 primary, n= 10 secondary) and four control schools (n=2 primary, n= 2 secondary) in Khayelitsha, Cape Town to ascertain exposure to SGBV and determinants of SGBV. Sample sizes were stratified by school and grade size. A separate survey was conducted with educators (n=140; female = 107; male = 33) capturing attitudes and knowledge of school policies towards SGBV. All surveys were conducted on mobile phones using Open Data Kit.

Results: 70% of students reported exposure to violence at home and 60% felt at risk of violence within their communities. Safety on the way to school was of concern to students and educators. 32% of high school students in relationships experienced intimate partner violence (IPV) in the past 12 months. 33% of all high school students experienced non-partner SGBV. 49% indicated perpetrating SGBV, with alcohol and drugs as a key feature of this violence. Non-partner violence was mostly perpetrated by a learner or teacher at school.

Primary school students were less likely to be in relationships, but 48% of those in relationships reported IPV. 65% of primary school students reported perpetration of non-partner related SGBV. 66% of educators felt schools are safe but only 50% indicated their school has a policy on SGBV. 33% felt corporal punishment is acceptable while 25% knew of others that use corporal punishment.

Conclusions: Learners report alarming levels of SGBV, whether in relationships or not. Primary school learners report higher levels of IPV and non-partner related SGBV than high school learners, reflecting the need for intervention at a young age, while many educators do not know how to respond to SGBV. These results will inform a joint Grassroot Soccer and Soul City intervention to reduce SGBV in schools.

THPEC231
SITAKHELIA LIKUSASA IMPACT EVALUATION PROTOCOL: A RANDOMIZED CONTROL TRIAL TO EVALUATE THE EFFECTIVENESS OF INCENTIVES TO IMPROVE HIV PREVENTION OUTCOMES FOR YOUNG WOMEN IN SWAZILAND

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Background: Swaziland has the highest HIV prevalence in the world, estimated at 26.5% of the adult population (15-49) in 2012, and high HIV incidence (4% amongst adolescent girls and young women [AGYW]). Cash transfers and other financial incentives have been proposed as a tool for HIV prevention. Results of impact evaluations have been mixed, with some studies showing promising results while others have failed to measure a statistically significant impact.

Methods: This abstract presents the protocol for the Sitakhele Likusasa Impact Evaluation, a cluster randomized control trial in Swaziland using a 2 x 2 factorial design to create four study arms: 1) cash transfers conditional on school enrolment and attendance (>80% over last school term) randomized at the enumeration area level, 2) raffle enrolment conditional on testing negative for curable STIs (Trichomonas vaginalis, syphilis), randomized at the individual level, 3) cash transfers conditional on school enrolment and attendance (>80% over last school term), and raffle enrolment conditional on testing negative for curable STIs, and 4) a control group with neither intervention.

Results: The primary endpoint is the impact of incentives on HIV incidence among HIV-negative AGYW aged 15-22 at baseline. Figure 1 describes expected sample sizes, and recruitment will aim at enrolling an equal proportion of participants current...
Reducing pre-partum and intra-partum transmission to infants

THPEC232
Adapting combination prevention and care continuum frameworks in a culturally–competent model to address local needs and reduce HIV infections among gay and bisexual men

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Background: In San Francisco (SF), gay/bi men report HIV/STIs, depression, sex and dating, social support, and substance use as their greatest needs. Citywide 5,000 HIV+ MSM are virally suppressed and 300 new infections occur annually. San Francisco AIDS Foundation (SFAF) recently opened a center, called Strut, to address gay/bi men’s needs and to reduce HIV transmission in SF by combining prevention and care programs in an integrated model.

Description: SFAF developed a program model that adapts major frameworks, including combination prevention, the continuum of care, and resilience research to build coping skills and social support to reduce HIV risks. Balancing local epidemiology, identified needs, and evidence-based research, SFAF integrated biomedical and behavioral services as well as community mobilization to develop the Strut model (see figure). Strut will serve one-third of MSM in San Francisco (~20,000) annually, providing HIV/STI screening, substance use treatment, mental health counseling, and relationship counseling. Strut currently has 200 visits per month.

Conclusions: This study is designed to test the following hypotheses: 1) cash transfers paid to the household conditional on school enrolment and attendance will encourage school participation and reduce HIV incidence; 2) financial incentives provided as raffle tickets to girls conditional on a negative Pap test will encourage school participation and reduce HIV incidence; 3) financial incentives provided as raffle tickets to girls conditional on a negative Pap test will encourage school participation and reduce HIV incidence.

Reduction of perinatal HIV transmission

THPEC224
Adherence to antiretroviral therapy during and after pregnancy in the Malawi ‘Option B+’ programme

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Background: While adherence to ART during pregnancy and breastfeeding is crucial for PMTCT/ART success, robust data on adherence in African Option B+ women are rare.

Methods: We did a cohort study of women starting ART between Sep 2011 and Mar 2014 at 12 facilities with complete electronic medical records. We estimated adherence across three groups: pregnant and breastfeeding Option B+ (OB+) patients and women who started ART for their own health (AOD). Based on drug dispensing records, we considered patients as “non-adherent” if they had insufficient pill supply in the interval between visits. We expressed cumulative medication adherence (CMA) as the percentage of days a patient had sufficient pill supply. We used flexible parametric survival models to compare non-adherence between patient groups.
Background: The National AIDS Spending Assessment (NASA) is a comprehensive and systematic resource tracking method developed by UNAIDS that describes the financial flow, actual disbursements and expenditures for HIV/AIDS by identifying financing sources, agents, service providers and beneficiary populations. In Nigeria, NASA tracks the AIDS spending of the HIV response including prevention of mother to child transmission (PMTCT). The effect of the HIV/AIDS spending on PMTCT in Nigeria cannot be over emphasis due to the low PMTCT coverage (30%) and effect on the population.

Methods: NASA uses top-down approach to track sources of funds from donor reports, commitment reports, and Government budgets whilst the bottom-up tracks expenditures from service providers’ expenditure records, facility level records and governmental department expenditure accounts. The assessment focused on tracking national level HIV expenditure available at central level and 10 States. The assessment did not include household out-of-pocket expenditure on HIV and AIDS. The outcome from the AIDS spending assessment showed an increased PMTCT spending from $12,400,238 in 2011 to $58,114,134 in 2014. These translate to 63% effort increase in coverage from 18.3% in 2011 to 29.9% in 2014. Also, the annual infections averted by PMTCT increased by 119% from 6,790 to 14,844. Deaths averted by PMTCT also increased by 94% from 3,685 to 7,167. In addition, new child infections due to mother to child transmission decline by 17% (from 67,960 - 58,331).

Conclusions: PMTCT coverage still remains low though an increase was noticed in the last three years. This underscores the need to invest more in this area and to intensify PMTCT interventions to eliminate transmission from mother to child.

**THPEC236**

**The Impact of HIV/AIDS Spending on Prevention of Mother to Child Transmission in Nigeria between 2011 to 2014**

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**Results:** The outcome from the AIDS spending assessment showed an increased PMTCT spending from $12,400,238 in 2011 to $58,114,134 in 2014. These translate to 63% effort increase in coverage from 18.3% in 2011 to 29.9% in 2014. Also, the annual infections averted by PMTCT increased by 119% from 6,790 to 14,844. Deaths averted by PMTCT also increased by 94% from 3,685 to 7,167. In addition, new child infections due to mother to child transmission decline by 17% (from 67,960 - 58,331).

**Conclusions:** PMTCT coverage still remains low though an increase was noticed in the last three years. This underscores the need to invest more in this area and to intensify PMTCT interventions to eliminate transmission from mother to child.
THPEC237
VIRAL SUPPRESSION AMONG HIV-POSITIVE WOMEN STARTING ANTIRETROVIRAL THERAPY (ART) BEFORE OR DURING PREGNANCY IN LESOTHO

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Background: Reaching maximal viral suppression is critical for preventing perinatal transmission. One hypothesized benefit of lifelong ART for all HIV-positive women (Option B+) is improved viral suppression in subsequent pregnancies.

Methods: This is an observational prospective cohort study of HIV-positive pregnant women conducted at 13 clinics in three Lesotho districts. Factors associated with HIV viral load (VL) suppression were assessed. VL was obtained between June 2014-November 2015 in 104 women at enrollment (any ANC visit) and delivery. Three women were excluded because of missing ART dates; 13 were excluded because delivery VL was obtained ≥3weeks post-delivery. Undetectable VL was defined as <20 c/mL (Roche CAP/CTM v2). Adherence was measured by seven-day self-reported recall. Logistic regression analysis was conducted to detect an association between ART initiation timing and undetectable VL.

Results: All women received NRTI-based ART (85.2% Elavir-flavir-based); 75/88 (87.2%) reported 100% adherence. Mean ART duration was 40.8 months in women starting ART prior to pregnancy (n=43) and 4.1 months for those starting during ANC (n=45); only 3/88 (3.4%) had <4 weeks ART. VL enrollment was undetectable in 26/43 (60.5%) women starting ART pre-pregnancy and 10/45 (22.2%) starting during-ANC. Delivery VL was undetectable in 52/88 (74.4%) women on ART pre-pregnancy and 18/43 (40.4%) of women who started ART during-ANC. Of 52 women with detectable enrollment VL, 18 (34.6%, 9 pre-pregnancy, 9 during-ANC) achieved undetectable VL by delivery. Four women with undetectable enrollment VL experienced a VL increase by delivery (3 pre-pregnancy, 1 during-ANC). Women starting ART pre-pregnancy were 5.4 and 4.3 times more likely to have undetectable VL at enrollment (p=0.001) and delivery (p=0.001), respectively, than those starting during-ANC. Fifty women (56.8%) had delivery VL = <20 c/mL, 19 (21.6%) had 20-999 c/mL and 19 (21.6%) had >1,000 c/mL.

Conclusions: Most women received ≥4 weeks ART and reported high adherence. However, only 56.8% achieved profound viral suppression to <20 c/mL, 78.4% reached suppression to <1,000 c/mL. While women starting ART pre-pregnancy were more likely to have undetectable VL than those starting during-ANC, almost one quarter still had VL >20 c/mL at delivery, with 11.6% having VL >1,000 c/mL.

THPEC238
ENGAGING COMMUNITIES TO ACCELERATE CHILDREN’S ACCESS TO HIV PREVENTION, TREATMENT CARE AND SUPPORT SERVICES

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Background: The HIV prevalence rate among women in Zambia is higher at 15% compared to men at 11%, increasing the risk of mother-to-child transmission of HIV (MTCT). Although global gains have been made in reducing MTCT, progress has been much slower in countries with a high burden of HIV like Zambia, with less than 40% of new infections averted. Many low resource settings affected by a critical shortage of ART and ARV treatment are in need of effective HIV prevention services and interventions. With the internationally endorsed strategy of early testing and treatment (ART), communities are key stakeholders to increase uptake and retention in ART programs.

Methods: In 2015, PCI Zambia pilot tested a Community ART-PROMote (CAP) approach through CHWs to accelerate access to ART and ARV treatment in Zambia. Forty CHWs (10 per site) were trained on delivering services as per register guidelines.

Results: A total of 428 HIV positive pregnant women were identified (217 women identified at 30 sites in Lusaka district and 211 in Eastern province), equating to MTCT rates of 4.1% and 1.9% respectively or 0.97 and 0.47 new infections averted. Many low resource settings affected by a critical shortage of ART and ARV treatment are in need of effective HIV prevention services and interventions. With the internationally endorsed strategy of early testing and treatment (ART), communities are key stakeholders to increase uptake and retention in ART programs.

Conclusions: There is a need for communities to be involved in the provision of ART services to increase access to ART and ARV treatment in Zambia and other low resource settings.
and estimated date of conception, and then used laboratory systems to follow-up routine VL testing practices from 15 months before the estimated date of conception to 6 weeks after delivery.

Results: Among 538 women the median age was 31 years and the median duration of ART use was 31 months (IQR, 17-59 months). In the 15 months before the estimated date of conception, 64% (n=327) had at least one VL test done in routine adult ART services, and 8% of these results (n=28) were >1000 copies/mL. During the pregnancy, 81% (n=437) of women had at least one VL test done and 12% (n=53) of these results were >1000 copies/mL. Pregnant women with elevated VL were more likely to report missed ART doses in pregnancy (p=0.036) and be on a PI-based regimen (p=0.054). Among women with VL ≥1000 copies/mL during pregnancy, 62% (n=33) had a repeat VL test done at a median of 4 months after the initial test (IQR 2-5 months) and 48% of women (n=163) had a VL ≥1000 copies/mL on this second test.

Conclusions: While coverage of VL monitoring appears high in this setting, VL testing during pregnancy occurs less frequently. A substantial fraction of women with elevated VL in pregnancy are never retested, and the time to retesting appears unusually long. With increasing numbers of HIV+ women using ART, greater attention is needed to design and implement effective strategies for VL monitoring in pregnancy.

**THPEC241**

**PREDICTORS OF NEUROCOGNITIVE OUTCOMES AMONG A COHORT OF 12-MONTH OLD INFANTS FROM UGANDA OF MIXED HIV-EXPOSURE STATUS**

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**Background:** Conflicting evidence exists concerning the effects of perinatal exposure to both antiretrovirals (ARVs) and HIV on early infant cognitive development. We therefore aimed to evaluate whether maternal HIV status, maternal ARV treatment status, and demographic characteristics were predictive of infant cognitive development in the first year of life.

**Methods:** Postpartum Ugandan women (n=244) of reproductive age (mean 24.9y±5.2) with known HIV status were enrolled from the Prenatal Nutrition and Psychosocial Health Outcomes (PRENAPS) study, a longitudinal pregnancy cohort, at a 2:1 HIV-infected:uninfected ratio. Maternal socio-demographic and physical and mental health parameters were collected at multiple study visits. We assessed neuropsychological development of infants at 6 and 12-months of age using Mullen Scales of Early Learning (MSEL). Linear regression models for repeated measures (mixed effects) were used to relate MSEL scores to maternal age, education, HIV-status, ARV regimen, socioeconomic status, and social support.

**Results:** Repeated measures were 215 mother-child dyads. At baseline, 147 women (65%) were HIV+, 57 (27%) were HIV+ receiving ARVs, and 18 (8%) were HIV+ not receiving ARVs. In multivariate models, HIV-exposed infants had higher Mullen Composite (B=3.9, SE=1.8, p=0.03) and Gross Motor scores (B=2.9, SE=1.3, p=0.03) than HIV and ARV exposed but uninfected children. Infants from HIV+ mothers receiving ARVs had higher Mullen Composite scores compared to infants from HIV+ mothers not receiving ARVs, but statistical significance was not reached, possibly due to smaller size of no ARV group. Greater postnatal maternal social support was associated with higher Mullen Composite scores at 6- and 12-months (B=0.37, SE=0.14, p=0.01).

**Conclusions:** These data suggest that HIV-exposure is associated with lower cognitive development scores in the first year of life, but that ARV regimen is not. Further, increasing maternal social support may be an effective strategy to improve early cognitive development. Examination of the effects of maternal and pediatric ARV-exposure on child cognitive development beyond 1 year are warranted.

**THPEC242**

**PREDICTORS OF UPTAKE OF EARLY POSTNATAL CARE AMONG HIV EXPOSED AND UNEXPOSED INFANTS IN SOUTH AFRICA**

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**Background:** Almost half of annual global deaths among children under 5 take place during the first 28 days of life, yet many infants do not receive the minimum WHO recommendation of three postnatal care (PNC) visits during their first six weeks of life. This study aims to identify predictors of uptake of early postnatal care among HIV-exposed and unexposed infants in South Africa, with the ultimate goal of increasing coverage and reducing infant deaths.

**Methods:** We analyzed data from the South African prevention of mother-to-child transmission (PMTCT) of HIV effectiveness through cross-sectional national surveys in 2010, 2011/12, and 2012/13. Research nurses interviewed mothers/caregivers and collected dried blood spots (DBS) from 4-8 week old infants (n=28,095 mother-infant pairs). DBS samples were tested for maternal antibodies using enzyme linked immunosorbent assay tests and, if positive, we defined the baby as HIV-exposed. Multivariable logistic regression was used to identify predictors of uptake of early postnatal care using STATA 12.0. Unweighted preliminary results are presented.

**Results:** Of the 28,095 mother-infant pairs, only 13.74% (n=3,861) received the recommended 3 PNC visits during the first 6 weeks of life, with 15.06% (n=1,258) of HIV exposed infants and 13.19% (n=2,603) of HIV unexposed infants achieving the recommendation. Predictors of recommended PNC visits were HIV-exposure (adjusted Odds Ratio (AOR): 1.14, 95% CI: 1.06 - 1.24), four or more ANC visits (AOR: 1.36, 95% CI: 1.22 - 1.51), and health facility delivery (AOR: 1.19, 1.05 - 1.38). The multivariable model also included maternal age and education, infant birth weight, formula feeding, and timeliness of first ANC visit.

**Conclusions:** Antenatal, labor and delivery care interactions with the health system were shown to significantly improve uptake of PNC services during the first 6 weeks of life. Therefore, efforts to improve uptake of vital early PNC should include health education that stresses the importance of four or more ANC visits, facility delivery, and three PNC visits within the first six weeks of life. Analysis weighted for sample realization and population live births will be conducted in the near future.

**THPEC243**

**PREVALENCE OF HIV INFECTION AMONG CHILDREN BORN TO HIV-INFECTED MOTHERS AFTER THE IMPLEMENTATION OF OPTION B+ IN RWANDA**

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**Background:** Prevention of mother-to-child transmission (PMTCT) of HIV is an important component of the global fight against HIV/AIDS. In 2011, the World Health Organization (WHO) recommended Option B+ for PMTCT, which provides lifelong antiretroviral therapy (ART) for all HIV-positive pregnant women, regardless of CD4 count. Rwanda implemented the program nationwide in November 2011.

**Methods:** Efficacy of Option B+ in Rwanda was evaluated through a pre/post quasi-experimental study comparing 18-month HIV-positivity rates among infants born to HIV-positive women before and after program implementation. Routinely collected data available through the TRACnet database system were used to analyze outcomes for infants in three birth cohorts before and after the implementation of Option B+. Only infants whose mothers accessed antenatal care/ PMTCT services at least once during pregnancy were included.

**Results:** Of the 6,768 infants whose mothers were enrolled in Option B+, 121 (1.8%) infant tested HIV positive, 6,368 (94.2%) infants tested HIV negative and 279 (4.1%) infants did not receive an HIV test due to death, loss to follow up or transferred out. 68% of HIV-positive infants first tested positive at 6 weeks, while 20% and 12% tested positive at 9 and 18 months, respectively. In the years 2007 - 2009, the HIV prevalence among infants at 18 months with known HIV status was 3.3%.
Background: Exclusive breastfeeding (EBF) provides infants with optimal nutrition in early life, and together with appropriate antiretroviral therapy has also been shown to decrease the rate of mother-to-child transmission of HIV from 45% to less than 1%. However, rates of EBF are particularly low in South Africa, where rates of HIV are some of the highest in the world. Determining the barriers and facilitators of EBF among postpartum women living with HIV is necessary to identify possible points of intervention. Although perinatal depression has been identified as a potential barrier to EBF, we understand very little about perinatal depression rates among HIV-infected women, and its impact on EBF.

Methods: A cohort study was conducted as part of a pilot randomized controlled trial examining the effect of a information, motivation and behavioral skills-based intervention promoting EBF among Black South African women living with HIV in their third trimester (28-42 weeks) of pregnancy. Women were recruited from two antenatal clinics near Pietermaritzburg, South Africa. At baseline, participants were interviewed on demographic variables, prenatal depression symptoms (PHQ-9), and their intentions to EBF. Postpartum, women were asked about their depression symptoms (PHQ-9) and breastfeeding behavior. Multivariate logistic regressions were built to determine predictors of EBF at six-weeks postpartum.

Results: A total of 68 women (34 intervention, 34 control) were enrolled and 58 women completed both assessments. Most (80.9%) of the sample reported symptoms of depression prenatally. Rates of depression were lower postpartum (47.1%). In multivariate models, higher prenatal depression scores significantly predicted lower rates of EBF at six weeks postpartum after adjusting for demographics, condition, and intentions (AOR=0.68, p=0.05). However, postpartum depression was not a significant predictor of EBF rates (AOR=0.96, p=0.99). Compared to women who did not live with their mother, women who lived with their mother had greater odds of EBF (AOR=5.17).

Conclusions: These findings demonstrate the negative impact of prenatal depression on breastfeeding behavior. Future interventions focused on depression are warranted and depression screening/interventions during pregnancy could identify those at risk for sub-optimal EBF. Improving maternal psychosocial well-being could be a new frontier to improving IYCF and reducing peri/postnatal transmission.

THPEC245

PRENATAL DEPRESSION EFFECTS ON EXCLUSIVE BREASTFEEDING PRACTICE AMONG HIV-INFECTED WOMEN IN KWAZULU-NATAL, SOUTH AFRICA

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Background: Exclusive breastfeeding (EBF) provides infants with optimal nutrition in early life, and together with appropriate antiretroviral therapy has also been shown to decrease the rate of mother-to-child transmission of HIV from 45% to less than 1%. However, rates of EBF are particularly low in South Africa, where rates of HIV are some of the highest in the world. Determining the barriers and facilitators of EBF among postpartum women living with HIV is necessary to identify possible points of intervention. Although perinatal depression has been identified as a potential barrier to EBF, we understand very little about perinatal depression rates among HIV-infected women, and its impact on EBF.

Methods: A cohort study was conducted as part of a pilot randomized controlled trial examining the effect of a information, motivation and behavioral skills-based intervention promoting EBF among Black South African women living with HIV in their third trimester (28-42 weeks) of pregnancy. Women were recruited from two antenatal clinics near Pietermaritzburg, South Africa. At baseline, participants were interviewed on demographic variables, prenatal depression symptoms (PHQ-9), and their intentions to EBF. Postpartum, women were asked about their depression symptoms (PHQ-9) and breastfeeding behavior. Multivariate logistic regressions were built to determine predictors of EBF at six-weeks postpartum.

Results: A total of 68 women (34 intervention, 34 control) were enrolled and 58 women completed both assessments. Most (80.9%) of the sample reported symptoms of depression prenatally. Rates of depression were lower postpartum (47.1%). In multivariate models, higher prenatal depression scores significantly predicted lower rates of EBF at six weeks postpartum after adjusting for demographics, condition, and intentions (AOR=0.68, p=0.05). However, postpartum depression was not a significant predictor of EBF rates (AOR=0.96, p=0.99). Compared to women who did not live with their mother, women who lived with their mother had greater odds of EBF (AOR=5.17).

Conclusions: These findings demonstrate the negative impact of prenatal depression on breastfeeding behavior. Future interventions focused on depression are warranted and depression screening/interventions during pregnancy could identify those at risk for sub-optimal EBF. Improving maternal psychosocial well-being could be a new frontier to improving IYCF and reducing peri/postnatal transmission.

THPEC246

PERFORMANCE OF OPTION B+ IN A POSTPARTUM COHORT OF HIV-SEROPOSITIVE WOMEN IN NAIROBI, KENYA

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Background: Option B+ for prevention of mother to child HIV transmission (PMTCT) is being implemented to streamline women’s access to antiretroviral therapy (ART) during and after pregnancy and reduce maternal HIV RNA levels. During widespread rollout, it is important to examine Option B+ performance in real-world settings, especially given concerns over postpartum adherence to ART.

Methods: Option B+ rollout occurred during an ongoing observational cohort study of 66 HIV-seropositive postpartum women at a maternal child health clinic. Women’s participation in the PMTCT care cascade, ART adherence, CD4 counts and HIV RNA levels were assessed after 6 weeks postpartum.

Results: We included 49 HIV-seropositive women who engaged in PMTCT at least 3 months after Option B+ rollout. Median postpartum CD4 count was 558 cells/mm³ (interquartile range: 407). The PMTCT care cascade was functioning well: 100% of women reported enrolling in the on-site ART clinic, 98% reported maternal cotrimoxazole, 95% reported infant ART at delivery, 98% reported infant breastfeeding ART prophylaxis, 98% of women initiated ART, and 100% of women were exclusively breastfeeding at 6 weeks postpartum. Most women (94%) reported receiving adherence counseling. Self-reported adherence was high; 5 women reported missing 1-2
transmission is negligible among women who remain in care and adherent to drugs.

**Background:**
RDT use ($\chi^2=197.1$, from 76.0% (2438/3269) before the study to 90.1% (1626/1787) with concurrent and syphilis. Outcomes include testing uptake before and with concurrent dual RDT

The usual turnaround time from screening to results in the national antenatal programme ranges from 1 to 3 days. We assessed the feasibility and acceptability of using dual HIV/syphilis rapid tests (RDT) with same day results.

**Methods:**
Pregnant women attending antenatal clinics in 21 rural and urban townships, in two counties of Guangdong and Anhui were included. Free dual RDT was offered in addition to the routine obstetric blood tests that included HIV and syphilis. Outcomes include testing uptake before and with concurrent dual RDT use, including feasibility and acceptability. Regression modelling examined predictors for acceptance of RDT testing.

**Results:**
In total, 1787 pregnant women attending antenatal care were enrolled. Testing uptake among pregnant women in their first and second trimester increased from 76.0% (2438/3269) before the study to 90.1% (1626/1787) with concurrent RDT use ($\chi^2=197.1$, P<0.001). Positive RDT screening results for HIV and syphilis were 0.06% (1/1787) and 1% (18/1787), respectively. RDT results were 100% current with national confirmatory tests. Regression analysis indicated that women who did not receive syphilis or HIV testing before were less likely to receive dual RDT ($\text{OR}=0.18, 95\% \text{ CI } [0.10, 0.37]$). For those who received syphilis and HIV RDTs, the odds of both tests being positive increased (95% CI [0.03, 0.8]).

**Conclusions:**
Dual HIV/syphilis RDT with same day results increased uptake of HIV and syphilis testing among pregnant women, at decentralized health facilities. Given the diversity of testing capacities among health services especially in rural areas, the dual RDT is feasible to implement and is a tool to improve testing services in antenatal care.

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**THPEC247**
Rapid Point-of-Care HIV and Syphilis Testing Increases Uptake of Testing Among Among Pregnant Women Attending Antenatal Clinics in China

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**Background:**
Who recommends combined screening for syphilis and HIV among pregnant women using rapid tests to reduce delays in diagnosis and accelerate early treatment. The usual turnaround time from screening to results in the national antenatal programme ranges from 1 to 3 days. We assessed the feasibility and acceptability of using dual HIV/syphilis rapid tests (RDT) with same day results.

**Methods:**
Pregnant women attending antenatal clinics in 21 rural and urban townships, in two counties of Guangdong and Anhui were included. Free dual RDT was offered in addition to the routine obstetric blood tests that included HIV and syphilis. Outcomes include testing uptake before and with concurrent dual RDT use, including feasibility and acceptability. Regression modelling examined predictors for acceptance of RDT testing.

**Results:**
In total, 1787 pregnant women attending antenatal care were enrolled. Testing uptake among pregnant women in their first and second trimester increased from 76.0% (2438/3269) before the study to 90.1% (1626/1787) with concurrent RDT use ($\chi^2=197.1$, P<0.001). Positive RDT screening results for HIV and syphilis were 0.06% (1/1787) and 1% (18/1787), respectively. RDT results were 100% current with national confirmatory tests. Regression analysis indicated that women who did not receive syphilis or HIV testing before were less likely to receive dual RDT ($\text{OR}=0.18, 95\% \text{ CI } [0.10, 0.37]$). For those who received syphilis and HIV RDTs, the odds of both tests being positive increased (95% CI [0.03, 0.8]).

**Conclusions:**
Dual HIV/syphilis RDT with same day results increased uptake of HIV and syphilis testing among pregnant women, at decentralized health facilities. Given the diversity of testing capacities among health services especially in rural areas, the dual RDT is feasible to implement and is a tool to improve testing services in antenatal care.
INCREASING COVERAGE AND QUALITY OF PREVENTION OF VERTICAL TRANSMISSION PROGRAMMES

THEPEC250
TIMELY DELIVERY OF ANTRETROVIRAL PROPHYLAXIS DURING PREGNANCY EFFECTIVELY REDUCES HIV MOTHER TO CHILD TRANSMISSION IN HIGH HIV PREVALENCE AREAS IN CHINA: A PROSPECTIVE OBSERVATIONAL STUDY DURING 2004-2011

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Background: China has drastically scaled up HIV surveillance, care and treatment since 2004. This study investigates the improvement of the prevention of mother-to-child transmission of HIV (PMTCT) over the period of 2004-2011.

Methods: An institution-based prospective study was conducted among HIV-positive pregnant women and their children in eight counties across China. Information of HIV transmission and antiretroviral prophylaxis (ARV) were collected. Associated factors of mother-to-child transmission was analyzed using regression analysis.

Results: A total of 1,387 HIV+ pregnant women and 1,377 HIV-exposed infants were enrolled. The proportion of pregnant women who received HIV testing increased significantly from 45.1% to 98.9% during the study period 2004-2011. Among these women, the proportion that received ARV prophylaxis increased from 61% to 96%, and the corresponding coverage in children increased from 85% to 97% during the same period. Notably, 87.7% of HIV+ pregnant women are receiving multi-ARVs in 2011, significantly improved from 2.8% in 2004. In contrast, the proportion required a made-up ARV regimen during delivery declined substantially from 97.9% to 12.7%. As a result, vertical transmission of HIV in this population significantly declined from 11.1% in 2004 to 1.2% in 2011. Regression analysis indicated that women who had vaginal delivery (in comparison with emergency Caesarian-section (OR=0.46; 0.23-0.96) and mothers on multi-ARVs (OR=0.11; 0.04-0.29) were less likely to transmit HIV to their newborns.

Conclusions: Increasing HIV screening among pregnant women and exposed children has improved timely HIV care and prophylaxis to reduce vertical transmission of HIV. Early and consistent treatment with multi-ARVs during pregnancy is vital for PMTCT.

THEPEC251
INTEGRATING PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS, SYPHILIS AND HEPATITIS B VIRUS: CHINA’S STEP-WISE SUCCESS MODEL

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Background: Elimination of mother-to-child transmission (EMTCT) of HIV and syphilis is a global public health priority. To address the challenge of preventing vertical transmission of HIV, syphilis and hepatitis B virus (HBV), China developed a step-wise approach, integrated within the existing health system: the integrated prevention of mother-to-child transmission of HIV, syphilis and HBV (IPMTCT) model.

Description: China’s PMTCT of HIV programme was initiated in one rural county in 2003, expanded to include three vertically-transmitted diseases (HIV, syphilis and HBV) in 2010, and gradually scaled-up to all counties by 2015. Integrated within the existing maternal and child health (MCH) system, free testing was provided to pregnant women accessing antenatal care (ANC) services, with free IPMTCT interventions for all infected pregnant women and exposed children. The adjusted mother-to-child-transmission rate of HIV was 6% in 2014, an 82% reduction since IPMTCT inception. From 2011 to 2014, reported congenital syphilis decreased by 30%, while the number of HBV-exposed neonates receiving Hepatitis B immunoglobulin (HBIG) increased by 172% (Table 1).

Lessons learned: The IPMTCT-model proved to be feasible and effective in China. National laws and strategic plans were released to create an enabling environment, Government investments increased 220-fold from USD 973,000 in 2003 to USD 215 million USD in 2015. To promote equitable access to MCH and PMTCT services, IPMTCT was included in the National Essential Public Health Programme in 2009, while the National Cooperative Medical Scheme helped increase timely utilization of MCH services among the most vulnerable population.

Conclusions/Next steps: Government commitment and a step-wise approach were critical for the success of China’s IPMTCT-model. To achieve global EMTCT goals, China’s IPMTCT-model will need to focus on further reducing provincial disparities in coverage and quality of care, and strengthening IPMTCT surveillance.

THEPEC252
THE LAST MILE IN ELIMINATING MOTHER TO CHILD TRANSMISSION OF HIV: ADDRESSING REMAINING LEAKAGES IN THE PREVENTION OF MOTHER TO CHILD TRANSMISSION (PMTCT) CASCADE IN RURAL KWAZULU-NATAL, SOUTH AFRICA

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Background: With the UNAIDS call for virtual elimination of mother-to-child transmission by 2015, PMTCT interventions are high on the international health agenda, but health systems imperfections lead to large numbers of vertical transmission in...
many countries. Despite recent PMTCT successes in South Africa, HIV seroconversion and inadequate HIV-virologic suppression during pregnancy remain a concern. Repeat HIV testing and viral load (VL) monitoring are therefore key process elements in optimising PMTCT programmatic success.

**Methods:** The Africa Centre for Population Health is located in a rural socio-economically deprived area of uKhanyaku kude district, KwaZulu-Natal. There are 7 primary health care facilities in the Africa Centre Demographic Surveillance Area (DAS). Ethical approval for the study was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee and National Department of Health. We photographed routine antenatal clinic data from maternity case records (MCRs), infant road-to-health booklets (RtHB), and interviewed locally resident women aged ≥18 years from delivery to 6 weeks postpartum. Data extracted were HIV screening practices of HIV-negative women from first antenatal booking, HIV VL testing of HIV-infected pregnant women, knowledge of early infant feeding and self-reported feeding practices. We present the first 2 months of data collected between 15 July 2015 and 15 September 2015.

**Results:** We recruited 250 participants. HIV prevalence amongst all antenatal clients aged ≥18 years was 48 % (95% CI 41-54%), similar to previous DSA studies. Other results are depicted in Figure 1.

**Conclusions:** Repeat HIV screening of pregnant women in this very high HIV-prevalence setting is inadequate. Very low HIV VL testing rates may reverse PMTCT results are depicted in Figure 1.

**Figure 1: Potential leakages in PMTCT cascade at 7 primary health care facilities in rural KwaZulu-Natal**

**Conclusions:** Repeat HIV testing and viral load (VL) monitoring are therefore key process elements in optimising PMTCT programmatic success. However other potential gaps in infant feeding knowledge and practice were not found. Health systems innovations, including quality improvement interventions (e.g. MONARCH study ongoing at DSA clinics), are urgently needed to bridge final gaps in achieving complete elimination of MTCT.
need to address these healthcare gaps if we are to eliminate MTCT of HIV in the US.

suspension.

dine was available in all units, but 64% (7/11) of hospitals did not stock nevirapine

HIV-exposed infants occurred in their facility. For infant prophylaxis, oral zidovu

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Furthermore, one facility, with over 14,000 annual births, did not have the

Results:

Background:

Methods:

We conducted on-site assessments and surveys with 70 healthcare pro-

On-site surveys were completed by obstetricians, neonatologists, pedia-

Results:

Background: Elimination of MTCT of HIV can be achieved if each step of the peri-

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Objectives: To evaluate compliance of institutional infrastructure of perinatal health care in four hospitals and assess compliance with national MTCT guidelines of optimum care for pregnant and breastfeeding women.

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Pregnancy, HIV, and Denial of Antenatal Care among Female Sex Workers in Southern Tanzania: Implications for Elimination of Vertical Transmission

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Background: Female sex workers (FSW) are more likely to be discriminated against in health care settings, limiting access to HIV services, including prevention of mother-to-child transmission (PMTCT). Prior qualitative research in Iringa, Tanzania found FSW and other unmarried women were denied HIV testing and ANC services if they did not bring their husbands/partners to the clinic. Here we describe FSW's pregnancy experiences in the context of their HIV risk and quantify prior qualitative findings related to access to ANC.

Methods: A Phase II randomized-controlled trial is being conducted in Iringa, Tanzania to evaluate the effectiveness of community empowerment-based combination HIV prevention among venue-based FSW. Venue-day-time sampling was used to recruit FSW, who were consented, tested for HIV, and surveyed for baseline. Logistic regression was used to compare pregnancy and ANC access by HIV status.

Results: Approximately 40% of participating FSW (101/254) were HIV seropositive at baseline. HIV+ women were significantly older (p-value=0.000) and had higher odds of being formerly married (OR 2.86 [95% CI 1.58-5.18]). Ninety-four percent of the sample had previously been pregnant, 3% were currently pregnant; and 19% were trying to conceive (35% of HIV+). Significant predictors of ANC enrollment were: knowledge of available ANC and being in a stable relationship. Logistic regression was used to compare pregnancy and ANC access by HIV status.

Conclusions: Future research could potentially improve PMTCT coverage by addressing the gaps in gestational care for FSW. Other avenues for future research may include assessing the relative effectiveness of different ANC models (e.g., clinical) for FSW. We encourage countries to adopt such models, considering the unique needs of FSW and other marginalized groups.

PREVENTION OF vertical TRANSMISSION SERVICES FOR MARGINALIZED GROUPS

THPEC259 INTIMATE PARTNER VIOLENCE AND VERTICAL HIV TRANSMISSION: CAUSAL PATHWAYS AND PROTECTIVE FACTORS FOR PMTCT ADHERENCE

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Background: Although prevention of mother-to-child transmission (PMTCT) can virtually eliminate vertical HIV transmission, only 65% of women complete all PMTCT steps. The PMTCT coverage gap may be related to intimate relationships, yet little is known about how partner dynamics influence HIV-related health behaviors around the time of pregnancy.

Methods: We conducted 32 qualitative interviews with HIV-positive pregnant and postpartum women who also experienced intimate partner violence (IPV). IPV was assessed through the WHO Multi-country Study instrument and in-depth interviews covered topics related to the woman’s pregnancy, HIV testing, the PMTCT cascade, and intimate relationships. Interviews were transcribed verbatim, double-coded, and thematically analyzed using Dedoose software.

Results: Women reported physical, sexual, and emotional violence in pregnancy and postpartum. IPV negatively impacted PMTCT behaviors through several key pathways. A predominant pathway was mental health, with IPV causing feelings of depression and hopelessness that resulted in views that “life is not worth living” and led to skipped medication. Fear of partner disclosure was a second pathway, with women choosing not to disclose because they anticipated a violent reaction. Some women found ways to take daily medication by hiding it, disguising it as other medicine, or moving out from their partner’s home. A third pathway was partner control and isolation, where men’s abusive strategy of reducing a woman’s access to friends and family had concomitant negative effects on her HIV behaviors. Overall, self-reported PMTCT uptake was high, partly due to protective factors. Women reported “striving for motherhood” as a coping technique, reminding themselves that their own health was important for the wellbeing of the baby. The desire to protect one’s infant seemed to overcome some of the PMTCT adherence risks related to IPV.

Conclusions: Adherence to PMTCT is essential to prevent vertical HIV transmission, but women living with IPV face multiple pathways to non-adherence: mental health challenges, partner non-disclosure, and isolation. Protective factors like striving for a healthy baby and motherhood may attenuate the negative relationship between violence and PMTCT. Addressing IPV in antenatal care can ensure the health of mothers and infants and may enhance PMTCT coverage in this marginalized group.

THPEC260 ASSESSING THE CONCORDANCE OF SUPERCvised SELF-TESTING USING AN ORAL FLUID-BASED HIV RAPID TESTING METHOD AMONG PREGRNANT WOMEN IN RURAL INDIA

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Background: HIV self-testing offers the potential to increase coverage of essential HIV services. This study aimed to establish concordance of supervised HIV self-testing through inter-rater agreement among pregnant women and rural community health workers (CHWs) in rural India.

Methods: A cross-sectional mixed methods study was conducted among 202 consenting pregnant women in a rural Indian hospital for six months. Participants were provided with instructions on how to self-test, and subsequently asked to self-test supervised by community health worker (CHW), using OraQuick® HIV antibody test. Test results were observed and interpreted first by participants in a private room and then by the health worker independently. To determine the ability of women to interpret the test results accurately, participants were provided with three pictorial model test results (positive, negative, and an invalid result). Subsequently, the CHWs recorded both their own as well as participants’ interpretations of results. Instruction guides available with each OraQuick® test kit were used to orient the CHWs on the procedures of testing and interpreting results. To orient participants to self-testing, a simplified version of the self-testing protocol with pictorial representation was used. Concordance for self-testing was reported as the measure of agreement of the test result interpretation between a participant and a health worker.
worker, quantified as a percentage agreement and with the Cohen’s Kappa (k) inter-rater agreement. All statistical analyses were performed using IBM SPSS Statistics v.22.

Results: Overall, 92.6% participants reported that the instructions for the test were easy to understand, 18.7% required the assistance of a supervisor to self-test. Concordance of test result interpretation between community health workers and participants was 98.5% with a Cohen’s Kappa (k) value of k=0.566 with p<0.001 for inter-rater agreement. Two test results were deemed as HIV positive by both participants and CHWs. According to participant’s interpretation, 198 tests were HIV negative and two test results were invalid which were in fact negative. One test result was deemed invalid by CHW.

Conclusions: High concordance rates of result interpretation with moderate inter-rater agreement between participants and trained healthcare workers indicate potential of feasibility for scaling up HIV supervised self-testing among pregnant women.

INTRODUCTION OF FAMILY PLANNING AND HIV SERVICES

THPEC261
FEASIBILITY AND CHALLENGES OF INTEGRATION OF FAMILY PLANNING AND HIV SERVICES AT A RURAL SETTING IN EASTERN UGANDA

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Background: Family planning (FP) is one of the four pillars in the reduction of HIV transmission from mother to child. In 2015 however family planning uptake in Uganda was still low with a contraceptive prevalence rate of 30% and a total unmet FP need of 41%. TASO Mbale in collaboration with the Ministry of Health integrated family planning services as part of comprehensive HIV care with the aim of making family planning services more accessible for PLHIV.

Description: We identified five frontline staff who were given intensive training on FP for one month and on return trained staff and expert clients. We integrated FP services at all HIV clinic outlet points. Both short and long term FP methods are provided at site. Patients who chose permanent methods are referred and linked to the family planning services at all HIV clinic outlet points. Both short and long term FP methods are provided at site.

Lessons learned: During the period, 1010 female patients received FP services of which 432/1010 (43%) were newly enrolled and 578/1010 (57%) were re-attendants from former years. Most, 756/1010 (75%) were 25 years and above; 110/1010 (11%) were between 20-24 years and 141/1010 (14%) were adolescents aged 10-19 years. The FP methods used were as follows: injectable (DMPA) (78.7%); Implants (Jadelle and implanton) (12%); oral contraceptives (micronor) (7%) and 1% had IUDs inserted, 1.3% were referred and linked for BTL. There were no referrals for vasectomy throughout the year. A total of 51 patients (5%) had their implants expire and were removed while two (0.1%) had their IUDs removed, one because of pain and the other due to expiry. Thirty one percent (313/1010) were on dual protection. Only 7% (23/314) of dual FP users requested for female condoms; (219/314) 93% requested for male condoms.

Conclusions/Next steps: Integration of family planning services into HIV Clinics is feasible and highly acceptable to female patients. Male interest and involvement in family planning needs to be encouraged.

THPEC263
PREVALENT AND DETERMINANTS OF UNPLANNED PREGNANCY IN HIV-INFECTED AND UNINFECTED PREGNANT WOMEN SEEKING ANTENATAL CARE IN CAPE TOWN, SOUTH AFRICA

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Background: Prevention of unplanned pregnancy is a crucial aspect of preventing mother-to-child HIV transmission (PMTCT). However, we have little understanding of how HIV status and antiretroviral therapy (ART) may modify pregnancy planning. There are few data on pregnancy planning in HIV-infected (HIV+) South African women, and no comparative data with HIV-uninfected (HIV-) women.

Methods: We conducted a cross-sectional study of 2105 pregnant women (1512 HIV+; 593 HIV-) ages 18-44 making their first antenatal clinic visit at a primary-level health care facility in Gugulethu, Cape Town. All women completed structured questionnaires including the London Measure of Unplanned Pregnancy (LMUP); a 6-item scale that categorizes pregnancies into planned, ambivalent and unplanned.

Analyses examined LMUP results across 4 groups of participants: HIV+; 593 HIV- pregnant women living with HIV received information on SRH/HIV. SRH services were accessed by 83% women & girls. Out of 440 pregnant women living with HIV 74% were put on ART as per the WHO new guidelines. 75 couples opted for safe abortion and 365 continued their pregnancy. 95% pregnant women were followed up by M2M and other support group members to ensure adherence of ART. 297 women had safe delivery and 78% have accepted contraceptives. 65 children completed 18 months and tested HIV negative. Services such as safe abortion, FP which are not provided by the government system was much appreciated. Couple counselling, male involvement and travel/nutritional support empowered women to go through safe motherhood.

Conclusions/Next steps: Build partnership and trust among networks. Promote greater awareness of the structural issues affecting the SRH by strengthening communication and counselling services on FP & SRH issues. Empower communities to understand & address their needs and rights & to raise voice when the rights are violated.

THPEC262
PROMOTING ACCESS TO SEXUAL REPRODUCTIVE HEALTH AND RIGHTS FOR WOMEN LIVING WITH HIV THROUGH INNOVATIVE SUPPLY SIDE APPROACHES

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Background: Most of the existing HIV prevention programmes fail to address the SRH needs of PLHIV. With treatment & care becoming increasingly available, PLHIV live longer & plan for their futures. Providing integrated SRH/HIV information/services through mentor peer-mothers will result in improved decision making process and uptake of services among PLHIV.
THPED264

EMPOWERING KEY POPULATIONS (KPS) TO EFFECTIVELY DEMAND FOR EQUAL HIV/AIDS SERVICES

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Background: AGHA in partnership with THETA and MNL with funding from CDC is implementing a Local Capacity Initiative project aimed at building capacity of CSOs working with KPs in Mukono, Kampala and Wakiso to advocate for improved HIV services. In Uganda, HIV prevalence among the general population stands at an average of 7.3% while among SWS is 35-37% and MSM at 13.7% between the age of 18-24. Over 40-50% of the new infections come from KPs (UAC/MOH 2014, Cranes survey 2013). Project targeting KPs continue to be characterized by limited coverage, age, poorly linked care, treatment and referral services. The project has increased capacity of 15 CSOs to demand accountability from government on national commitments on KPs; increased capacity of KPs to identify the legal and policy framework that impede equitable access, increased participation and representation of community leaders and KPs living with HIV in the governance structures that influence health services delivery.

Description: The project equipped KPs with skills to generate issues on the delivery of HIV/AIDS services using social accountability approaches like the community scorecard in six government hospitals. The scorecard assessed the extent to which government has met its commitment towards achieving zero new infections, discrimination and HIV/AIDS related deaths within the national HIV/AIDS response. The findings showed high stigma and discrimination of KPs by health workers, no peer led services, no commodities like lubricants and condoms, criminal laws and policies.

Lessons learned: 10 peers from each KPs category have been trained on ART adherence, home based care, HTC, health rights and advocacy.

Conclusions/Next steps: Uganda’s response has had challenges in the recent past due to limited priority in Prevention, treatment and programming for KPs and yet research shows KPs are the leading avenue for new infections. As a consortium, we are committed to influence the national response through advocacy and community dialogue with duty bearers to enable KPs access HIV services and empower them in voicing out their demands.

THPED265

DISCRETIONARY VENUES: ONLINE HOOK UP CULTURE, HIV VULNERABILITY AND VIOLENCE AMONG SEXUAL AND GENDER MINORITIES IN ABIDJAN, CÔTE D’IVOIRE

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Background: Despite the Internet’s global importance as a sex-seeking venue for men who have sex with men (MSM), little is known about this topic outside of the US and European contexts. In this mixed methods, ethnographic study, we explore participants’ experiences with and attitudes towards online sex-seeking venues with a focus on violence and individual risk-reduction strategies.

Methods: In 2015, survey and ethnographic research was conducted with MSM in Abidjan, Côte d’Ivoire recruited on- and offline. In-depth interviews were conducted with 21 of the 105 survey participants. Survey data were analyzed in Stata/SE 14.1 using bivariate logistic regression and interviews were coded in Dedoose.

Results: 46% of survey respondents reported finding their partners primarily online and 91% reported ever having found a partner online. Qualitative data revealed that primary motivations for using online venues included discretion and anonymity, ease and accessibility, and making social connections beyond sex. While participants who reported usually finding their partners online were more likely than those who primarily found partners offline to disclose and discuss HIV with online partners (26% vs. 11%, OR 2.67, *all p-values < .10), such risk-reduction did not extend to their practices with partners they met offline. Participants who usually met partners online were more likely to report having sex with a condom in the past 6 months with their online partners (19% vs. 4%, OR 6.39). Though interview participants perceived online venues as providing a degree of protection against stigma and violence, survey data showed that participants who primarily found their partners online were more likely to report having experienced extortion and/or blackmail with sexual partners (20% vs. 10%, OR 4.93) and stigma or violence because of being gay or bisexual (47% vs. 29%, OR 2.20).

Conclusions: These findings are important for current HIV prevention programming in Abidjan and other African cities where use of online sex-seeking venues is widespread among MSM. Further research should be conducted on the online and offline contexts of MSM lives outside of the global North, as their experiences may differ in important ways.

THPED266

DEMOGRAPHIC AND SEXUAL PROFILING OF MEN WHO HAVE SEX WITH MEN IN LAGOS, NIGERIA

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Background: Men who have Sex with Men (MSM) are known to have an increased risk for HIV infection and are also mainly responsible for heterosexual HIV transmission. An innovative and effective strategy aimed at a reduction in transmission of HIV among this population is needed. However, little is known about the demographic and sexual profiles of this group due to discriminations and current laws in the country (Anti same sex law of January, 2014). The study aimed to profile the demographic and sexual characteristics of MSM in Lagos, Nigeria.

Methods: This was a cross sectional study carried out between July to September 2015 in Lagos State, Nigeria. A total of 3501 MSM were drawn from identified hotspots in the twenty local governments in the state using the capture and recapture method. Following informed consent an interviewer administered questionnaire was used to elicit information on the socio demographic and sexual profile of respondents. Epi-Data (v3.1) was used for data entry while SPSS (v20) was used for analysis with relevant descriptive statistics generated.

Results: Majority of the respondents (72.4%) were between the ages of 20-29 years and have never been married (77.6%). About 54.6% of the respondents had tertiary education while 44.7% were currently students and 25% were employed. A total of 1851 men (52.9%) had engaged in commercial sex with a woman in the last 12 months. Among this population, condom use was reported by 63.7%. Also, about 45.2% of the study population reported having sex with a woman in the last 12 months.

Conclusions: The results show the MSM population in the state consists mainly of youths. It also revealed the existence of risky behaviour among the study population. There is the need for youth friendly HIV/AIDS behavioural change interventions aimed at prevention and transmission of HIV not only among the study population but also among their heterosexual partners.
syndemic factors associated with condom use and HIV-positive serostatus among young men who have sex with men in Jamaica

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Background: Worldwide young gay, bisexual and other men who have sex with men (MSM) experience social inequities that contribute to elevated rates of HIV. Homosexuality is criminalized in Jamaica and there are reported HIV infection rates of 28% among young MSM. Syndemic approaches explore the co-occurrence of psychosocial and health issues, and their interaction with HIV vulnerabilities. We examined syndemic factors associated with condom use and HIV incidence among young MSM in Jamaica.

Methods: Cross-sectional survey data were analyzed for young MSM (≤35 years) enrolled in a respondent-driven community-based research study in Kingston, Ocho Rios, and Montego Bay, Jamaica. Logistic regression was conducted to identify factors associated with condom use and the past 3 months and HIV-positive serostatus.

Results: Of 556 participants (mean age: 25.5; SD: 5.7; sexual orientation: 67% gay; 30% bisexual; 3% heterosexual/other), 28% reported condom use in the past 3 months and one-tenth (11.5%) were HIV-positive. Condomless anal sex in the past 3 months was associated with: food insecurity (OR: 1.69; CI: 1.16-2.47); forced sex in adulthood (OR: 2.29; CI: 1.11-4.74); childhood sexual abuse (OR: 2.16; CI: 1.02-4.56); childhood domestic violence exposure (OR: 3.75; CI: 1.62-8.68); alcohol use (OR: 1.42; CI: 1.12-1.82); lower safer sex self-efficacy (OR: 0.77; CI: 0.68-0.88); and lower empowerment scores (OR: 0.86; CI: 0.76-0.98).

Participants who were HIV-positive were older (OR: 1.05; CI: 1.01-1.10) and reported: sexual stigma (OR: 1.07; CI: 1.02-1.13); housing insecurity (OR: 3.32; CI: 1.53-7.21), including living outside (OR: 11.82; CI: 2.59-53.82); food insecurity (OR: 1.68, CI: 1.24-2.26); lower self-rated health (OR: 0.50; CI: 0.35-0.71); lifetime history of STI (OR: 8.63; CI: 7.30-20.00); alcohol use (OR: 1.24, CI: 1.02-1.51); and depression (OR: 1.32, CI: 1.10-1.58).

Conclusions: Findings highlight the salience of a syndemic approach to addressing HIV prevention and care with young MSM in Jamaica. Condomless anal sex was associated with social inequities (i.e. poverty, sexual violence) and substance use. HIV-positive young MSM reported increased poverty, stigma, and poorer health outcomes in comparison with HIV-negative MSM. Interventions to increase access to the HIV prevention and care continuum among young Jamaican MSM should address the interplay between poverty, stigma and mental health.

LESSONS LEARNED OF SETTING UP A COMMUNITY-BASED HIV-RELATED HUMAN RIGHTS MONITORING AND RESPONSE SYSTEM IN UGANDA

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Background: In Uganda, discrimination, violence and criminalisation of LGBTI people is mounting. This creates barriers to accessing essential HIV and other health services for men who have sex with men, transgender people at higher risk of HIV. Yet there is growing evidence that we need to address those barriers and uphold the right to health for all if we want to end AIDS.

Description: Given this context, LGBTI organisations in Uganda set up REAct (Rights-Evidence-Action), a community-based documentation system that was developed by the International HIV/AIDS Alliance. The REAct system helps monitor and respond to human rights-related barriers in accessing HIV and health services. The information is encrypted and logged in the information management tool, Martus, and is analysed for the following purposes:

• Crisis response to individual emergencies: The system facilitates identifying and prioritising rapid resource mobilisation and assistance to avert or respond to specific individual crises and/or emergency situations.
• Evidence for advocacy: Implementing Organisations use REAct to compile information from beneficiaries, clients and individuals that produces quantitative and qualitative evidence to substantiate their advocacy.

Between May 2014 and December 2015, Ugandan LGBTI organisations using REAct documented 264 cases of HIV-related human rights abuses. Over 65% were responded to through individual emergency responses or referrals to human rights programmes. Most cases related to harassment or intimidation by or with inaction from law enforcement officers (over 70% of cases attended) followed by denial of health services (45%) and termination of employment and house eviction (10%).

Lessons learned: - A community-based human rights monitoring system must have full ownership of the community and be flexible to be able respond to its specific needs expressed through full participation.

Any human rights monitoring system must also help provide individual support to those it collects information from and ensure that implementing organisations have the necessary resources to implement the system.

Conclusions/Next steps: REAct as a tool that can be adopted by anyone and it possesses high levels of security. In Uganda REAct is being extended to other member organisations of SMUG and other countries under the International HIV AIDS Alliance family.

OPENING PANDORA’S BOX: LESSONS FROM MSM HIV PREVENTION POLICIES AND PROGRAMMATIC EFFORTS IN GHANA

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Background: A growing number of national AIDS policies in Africa over the past decade have widened their category of key populations at risk for HIV to include men who have sex with men. These policy changes however are taking place in contexts that criminalize/stigmatize male same-sex acts and have an affect on HIV prevention efforts and their impact.

Methods: This paper draws on data from a 12-month qualitative study on Ghana’s emerging role as a model country in Africa for HIV prevention efforts among MSM and how these are implemented and experienced by the men. I present findings from participant observations, 43 interviews with policymakers, key informants, HIV service providers, ‘sosai’/MSM, and programs and resistance to government policies. I use a critical realist approach to understand how, when and why prevention efforts have succeeded or failed. I analyse these findings in the context of Ghana’s history of resistance to MSM rights but also the growing interest in the ‘growing MSM population and the men’s HIV prevention needs.

Conclusions: MSM and peer educators are content with increased prevention efforts but with some challenges, in addressing HIV among MSM, a group with 17% HIV-prevalence. Successes include incorporation/implementation of a human rights framework, buy-in of president, involvement of the diverse stakeholders, expansion of prevention programs, and inclusion of sosai/MSM. Criminalization of ‘homosexuality’, stigma, and insufficient funding/resources remain key challenges to prevention efforts. MSM and peer educators are content with increased prevention efforts by the government but feel excluded from some areas of work and think programs fall short of addressing distal risk-factors like poverty/anti-gay violence. Moreover, they feel key-stakeholders are more interested in the funding accompanying MSM programs than meaningfully addressing the epidemic among the men. Finally, complex political/sociocultural dynamics shaping and arising from the efforts have produced a backlash against MSM as posing a threat to the public and against lay-health workers for the nature of their work with the men. Efforts have produced a backlash against MSM as posing a threat to the public and against lay-health workers for the nature of their work with the men.

Lessons from the past for impact not just in terms of outlined programmatic objectives on HTC, for example, but also on the social/legal context they’re carried out in and for their unintended consequences.

AN INNOVATIVE APPROACH TO ENGAGING MSM LIVING WITH HIV IN HIV CARE CONTINUUM IN MALAYSIA: TREATMENT AND ADHERENCE SUPPORT PROGRAMME BY MSMS FOR MSM

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Background: While the HIV care continuum posits that early identification and treatment of HIV infection coupled with information and education about antiretroviral treatment (ART) and adherence, emotional management and healthy living with HIV could markedly decrease onward HIV transmission, men who have sex with men (MSM) living with HIV in Malaysia are undoubtedly challenged with stigma and discrimination in addition to prohibitive legal and socio religious environment that negatively impact their access to treatment, care and support services.

Description: For the very first time in Malaysia, the Malaysian AIDS Council through its Partner Organisation implemented the Treatment Adherence Peer Support Programme (TAPS) specifically designed and targeted for MSM living with HIV in Malaysia. TAPS is unique in its approach of engaging peer workers who themselves have lived experience and are trained in the treatment adherence process, and is specifically designed to meet the needs of MSM, particularly those who have had limited access to essential services. TAPS is being done in collaboration with the national MSM organisations, the national programme (TAPS) specifically designed and targeted for MSM living with HIV in Malaysia. TAPS is unique in its approach of engaging peer workers who themselves have lived experience and are trained in the treatment adherence process, and is specifically designed to meet the needs of MSM, particularly those who have had limited access to essential services.

Conclusions: The Malaysian government, through collaborative/strategic work with non-state key-stakeholders consisting of multi-pronged interventions, has made significant progress but with some challenges, in addressing HIV among MSM, a group with 17% HIV-prevalence. Successes include incorporation/implementation of a human rights framework, buy-in of president, involvement of the diverse stakeholders, expansion of prevention programs, and inclusion of sosai/MSM. Criminalization of ‘homosexuality’, stigma, and insufficient funding/resources remain key challenges to prevention efforts. MSM and peer educators are content with increased prevention efforts by the government but feel excluded from some areas of work and think programs fall short of addressing distal risk-factors like poverty/anti-gay violence. Moreover, they feel key-stakeholders are more interested in the funding accompanying MSM programs than meaningfully addressing the epidemic among the men. Finally, complex political/sociocultural dynamics shaping and arising from the efforts have produced a backlash against MSM as posing a threat to the public and against lay-health workers for the nature of their work with the men.

Lessons from the past for impact not just in terms of outlined programmatic objectives on HTC, for example, but also on the social/legal context they’re carried out in and for their unintended consequences.

Any human rights monitoring system must also help provide individual support to those it collects information from and ensure that implementing organisations have the necessary resources to implement the system.
The Power of Principles: The Long-Term Effect of Strong Personal Norms on Condom Use Among MSM

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Background: Principles, or strong personal norms, are one’s internalized personal values or “inner convictions” to (not) perform a given behavior. We hypothesized that principles predict condom use over longer periods of time than behavioral intentions do. We investigated the association of baseline principles and intentions to use condoms with casual partners with actual condom use over a 4-year period (January 2011-December 2014) among HIV-negative men having sex with men (MSM) of the Amsterdam Cohort Studies (ACS).

Methods: We included men with at least two ACS visits at which condom use with casual partners was reported. Principles and intentions were measured at baseline using 3 items, Cronbach’s alpha = 0.91 and 0.73, respectively. Two logistic regression models examined condom use (yes/no). The first for condom use measured at 6 months post-baseline and the second for the last visit. We used bivariate and multivariate models; the latter was corrected for, educational level, nationality, having a steady partner, and follow-up time (median=3.5 years (IQR=3.2-3.6) between first and last visit.

Results: 260 MSM (mean age=39; SD=8.2) were included. Bivariate analyses revealed that men with strong baseline principles (OR=13.4; 95% CI=4.0-44.4) and strong baseline intentions (OR=28.3; 95% CI=7.7-103.9) were significantly more likely to report condom use at their first post-baseline visit than men with weak principles and intentions. At the last visit, the OR decreased to 9.3 (95% CI=2.8-30.7) and 6.6 (95% CI=2.3-18.5) for baseline principles and intentions, respectively. Multivariate analyses revealed that men with strong baseline principles were significantly more likely to use a condom at the last visit (OR=4.8; 95% CI=1.2-19.0), and the effect for baseline intentions did not hold in the multivariate model (OR=3.1; 95% CI=0.9-10.7).

Conclusions: Having strong principles predicted long-term condom use whereas intentions did not. Our finding suggests that principles regarding condom use are core cognitions that retain their association with behavior over time, in contrast to strong intentions that may determine behavior over a shorter time frame. In order to develop effective strategies to influence risk behavior, HIV prevention should try to facilitate the formation of strong principles regarding the implementation of effective risk-reduction strategies. Although not an easy task, it may have long-term benefits.

Evaluating Compliance of Key Populations (PWID, MSM and FSW) with Quarterly HIV Counseling and Testing (HCT) Accessing Care at a Community Health Centre, Kaduna, Nigeria

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Methods: The data used for the evaluation were obtained from the clinical records of KPs attending the CHC from October 2014 to September 2015. Multivariate analysis was conducted.

Results: A total of 1,687 KPs - 233 PWID, 1,141 MSM and 305 FSW accessed HCT at the CHC during period under review. More than two thirds were aged 18-25 years, 78% had secondary school education, 22% were employed and 59% were students. About 17% of PWID, 20% of MSM and 7% of PWID had HCT at least twice; about 9% (10% of MSM, 13% of FSW and 4% of PWID) had HCT at least three times; and none of the KPs had HCT four times within a one-year period. Overall HIV prevalence among the KPs was 6.4% (PWID - 2%, MSM - 11% and FSW - 16%).

Conclusions: This study revealed that compliance of KPs with quarterly HCT was very poor in the Kaduna region of Nigeria. Specific interventions should be designed that will address the health needs and improve compliance of KPs with WHO recommended quarterly HCT in Nigeria in order to reduce the transmission of HIV among key populations and subsequent cross-infection to the general population.

Evaluating HIV Prevention Knowledge and High Risk Behaviors Amongst MSM in Nigeria

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Methods: This study was conducted by the concern Conscience International and International Rectal Microbicide Advocates (Nigeria) to assess knowledge, attitude and behaviors of the MSM community towards HIV prevention issues.

THPED272
Confronting Violence and Discrimination Against Men Who Have Sex with Men (MSM) and Female Sex Workers (FSW) in Mali in 2014 and 2015

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Background: While neither homosexuality nor sex work are mentioned specifically by law in Mali, MSM and FSW report widespread stigma, rejection, discrimination, violent attacks and the inability to access justice. Mali has adopted the UNAIDS objective of Zero Discrimination and the 2013-2017 National Strategic Plan against AIDS aims to reduce discrimination and violence against key populations.
Conclusion: These research findings suggest that immediate action is vitally required to mitigate HIV risk behaviors despite high levels of education and employment. The implications for public health are significant. Male partners in Nigeria are critical due to social isolation by culture, religion, and family. Knowledge of HIV, safer sex practices, and related issues was low and misconceptions about HIV were common. Access to HIV testing was seldom available and treatment for those infected with HIV and STIs was inaccessible.

Conclusion: The realities with regards to HIV risk for MSM and their male and female partners in Nigeria are critical due to social isolation by culture, religion, family and political will. HIV risk behaviors are high and knowledge of HIV prevention is low. Knowledge of HIV, safer sex practices, and related issues was low and misconceptions about HIV were common. Access to HIV testing was seldom available and treatment for those infected with HIV and STIs was inaccessible.

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Results: The total sample was 585 TW. Mean age was 34.4 years old, only 36.9% had completed high school or higher education and 30.8% were sex workers. Almost 37.9% had ever had serious suicidal thoughts and 20.3% suicidal attempts and 26% had minor, moderate or severe ill being. We found higher possibilities of experiencing suicidal ideation and attempts and ill being among those who had ever lived in the street. Consumption of legal drugs was associated with a higher possibility of suicidal ideation and attempts and a lower possibility among those who reported having HIV. Stigma and discrimination was associated with higher possibilities of suicidal ideation and ill being.

Conclusions: TW have, by far, a higher prevalence of suicidality than the general Mexican population (2.8%). These findings suggest that poor social support and misuse of substances are associated with suicidality. Mental health care systems should be adapted and available to this population to help to build up HIV prevention strategies.

THPED278 LAUNCH OF THE JOURNAL OF THE INTERNATIONAL AIDS SOCIETY SPECIAL ISSUE ON TRANSGENDER HEALTH AND HIV: NEW DATA, NEW OPPORTUNITIES

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Background: Transgender (trans) people, particularly trans women who have sex with men, face a disproportionate burden of HIV. Yet, they are severely underserved in the global HIV response. The WHO 2014 Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment and Care for Key Populations describe essential elements of HIV programming for trans people. However, these recommendations rely on research among non-transgender MSM. In collaboration with the Journal of the International AIDS Society (JIAS), leaders in transgender health and human rights sought to expand the evidence base specific to HIV and trans people to better enable funders, policymakers, and implementers to develop HIV policies and programs based on the most current trans-specific knowledge.

Description: An editorial team invited data-driven abstract submissions on: HIV clinical and prevention issues; epidemiologic and behavioral data; research and practice addressing social and structural issues; evaluations of interventions to improve engagement in the HIV continuum of care; and policy and programmatic case studies. Submissions by trans authors were strongly encouraged. More than 80 abstracts were received. Based on quality, regional representation, and trans authorship, editors selected 15 abstracts for full manuscript submission. Thirteen manuscripts were submitted for peer review. These manuscripts represent research in West Africa, East and South Asia, Latin America, and the Middle East. Data on trans MSM as well as trans youth are included. Topics include the impact of stigma on healthcare seeking and service access, human rights and health implications, community-led approaches to reaching trans populations, and new tools for trans program implementation, among others.

Lessons learned: The volume and geographic diversity of abstracts indicate significant interest in trans health and HIV around the world. Trans people are engaged in conducting and presenting research as well as leading the HIV response in their communities. Trans women continue to face stigma, extreme constraints on livelihood choices, and diminished agency that impede their engagement in HIV prevention, care, and treatment. However, where opportunities exist, successful programs have been implemented.

Conclusions/Next steps: The JIAS special issue on transgender health and HIV brings global visibility to new trans-specific epidemiological, behavioral, and programmatic evidence from around the world.

THPED279 BLUEPRINT FOR THE PROVISION OF CARE FOR TRANS PEOPLE AND TRANS COMMUNITIES IN ASIA AND THE PACIFIC: A CONTEXTUAL MAP FOR THE REGIONAL HIV AND HEALTH RESPONSE

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Background: Trans women in Asia and the Pacific are disproportionately affected by HIV. Little data is available on HIV among trans men and other gender non-conforming people. There are insufficient programmes and services targeted to meet trans-specific needs. Regionally, legal gender recognition is available in few countries with limited implementation. Violence is a daily reality. A consortium of stakeholders collaborated between October 2014 and September 2015 to address this gap and developed the Blueprint for the Provision of Care for Trans People and Trans Communities in Asia and the Pacific. This is a contextual map demonstrating where to strengthen policy-related, clinical and public health responses for trans people.

Description: The consortium included Asia Pacific Transgender Network, the United Nations Development Programme, and the USAID-funded Health Policy Project. Regional consultations were held in Nepal and Thailand with trans community leaders, and included Pacific representation. Sixty-six individuals and organisations submitted feedback, including an expert medical review from providers of trans health in the region. The content encompasses human rights, comprehensive HIV and health care, working with gender-diverse youth and children and a guide on hormone administration, monitoring and use.

Lessons learned: The blueprint fills knowledge gaps and can promote dialogue between trans people, health professionals, governments, and others to address HIV, health inequality, violence, and legal gender recognition. Diverse, varied trans identities exist in Asia and the Pacific and required specific case studies, terminology and considerations. Participants and reviewers identified overarching policy recommendations, which include ensuring participation of trans people in research, advocacy and policy; improving access to and quality of health services and public health; ending violence against trans people; passing protective laws for trans people and promoting legal gender recognition. The Blueprint has been translated into Chinese and Bahasa Indonesia and informs the new AIDS strategy in China and social protection policies and programming in Indonesia.

Conclusions/Next steps: The Blueprint is a tool for advocacy, strategic planning, training and programme design. Governments, donors and programme planners can use the Blueprint to guide the trans health and HIV response in Asia and the Pacific. Regional roll-outs are planned including policy briefs, provider training, and coordinated dialogues.
230 participants were recruited with the help of an NGO. Appointments were made for an anonymous face-to-face interview conducted by trained NGO staff in settings with privacy ensured.

Results: Among all participants, prevalence of self-reported or tested being HIV positive was 25.9%. The prevalence of CRAI with RP and NRP was 25.0% and 23.8% in the last month, respectively. Such prevalence did not differ by their HIV sero-status. Adjusted for significant background variables, having CRAI with male clients in the last month, scored higher in UCLA Loneliness Scale and Self-stigma Scale, and poorer mental health status (depressive symptoms and anxiety symptoms measured by CES-D-20 Scale and GAD-7 scale, respectively) were associated with higher likelihood of CRAI with RP and with NRP, while perceived self-esteem was negatively associated with CRAI with RP and with NRP. Perceived social support was associated with CRAI with RP but not with CRAI with NRP.

Conclusions: Prevalence of CRAI with non-commercial male sex partners was high and did not differ by HIV sero-status among TSW in China. They may form a bridge population transferring HIV from high-risk population (their male clients) to relative low risk population (their non-commercial male partners). Interventions are warranted but lacking. Factors associated with CRAI with RP and with NRP were similar. It is important to reduce psychological problems such as depression/anxiety and to improve self-esteem.

THPED281
THE FORCED STERILISATION OF TRANSGENDER PEOPLE IN SINGAPORE: A RESEARCH EXPLORING GENDER IDENTITIES OF TRANSGENDER AND GENDER NON-CONFORMING INDIVIDUALS IN RELATION TO GENDER RECOGNITION LAWS IN SINGAPORE

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Background: Singapore’s current gender recognition law allows transgender people to change the sex marker (from M to F, or F to M) on their identification cards, only on the condition of full removal of reproductive organs. While there are some who are relatively satisfied, there are many who feel frustrated as a full sex reassignment surgery may not be desired. The study focused on intersectionalities concerning non-operative transgender people’s choices specific to Singapore’s societal, religious and familial contexts - and sought to fill a lacuna in the current research landscape, where emphasis on transphobia’s root cause is lack: the failing of legal gender recognition fuels the lack of understanding and diversity appreciation. The study also focused on consequential issues faced in employment, healthcare and housing opportunities.

Methods: An online survey was conducted between May and December in 2015. Follow up focus group discussions were also conducted with 20 out of 249 of the respondents. The survey was targeted at transgender and gender non-conforming individuals who are at various stages of transition.

Results: The study found that there are four main barriers for transgender individuals to undergo sex reassignment surgery: financial concerns, concerns from people around transgender individuals, physical and emotional fears related to surgery, and religion. The study also found that 65% of transgender people would like to be able to change the sex marker on their identification cards to match their gender identities. Out of this 65%, 85% of the respondents are pre-operative or non-operative individuals. The other 35% of the respondents would wish to have non-operative individuals. The other 35% of the respondents would wish to have CRAI with RP and with NRP.

Conclusions: The inability to define for oneself how one is presented in the public sphere is a significant cause for the marginalization and discrimination of the transgender community. While Singapore remains progressive in recognizing post-operative transgender individuals, it is important to expand that recognition to people who have not or who do not wish to undergo surgery. Doing so will enable the community to be recognized as part of society.

THPED282
“THIRD GENDER” LEGAL RECOGNITION BUT NO ACCEPTANCE: A JOURNEY WITH FULL OF OBSTACLES BEING AS TRANSGENDER WOMAN IN PAKISTAN

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Background: Transgender community in Pakistan has faced multiple levels of legal, institutional and societal discrimination, although they have got legal identity cards by the ruling of Supreme Court back in 2010, but rights are not being translated into laws. To identify the major gaps in laws and current status the research was designed by Naz Male Health Alliance and 28 FGDs were organized in Pakistan.

Methods: In this National level of qualitative research a total number of 28 FGDs, 14 in depth interviews & 10 key informant interviews were conducted in 14 major cities of Pakistan, the literature was thoroughly reviewed before initiating the research and it was part of the study design to recommend a policy brief. The study took almost 6 months before the final report was published and 10 case studies were also the outcome of this research, tools were developed by psychologist for FGDs, IDIs & Kits.

Results: This study revealed that 35% TGs are illiterate and 42% does dancing for their income. Whereas 15% are involved in sex work and 12% are into beggar. The legal recognition has failed to restore the respect in the society and it is a barrier in performing Hajj, the sexual and physical violence is still the same and almost 40% of TGs suffer from rape cases. Head shaving and beaten up during functions are also very common 80% never seek any kind of help and the HIV prevalence is almost 7%.

Conclusions: This research has identified crucial areas which need immediate attention of state and civil society organization to ensure the provision of basic human rights for TG women in Pakistan, There is a need to develop a law to ensure social & economic inclusion along with mechanisms for meaningful recognition with rights. The laws & policies for sexual and physical assault are not in place and there is ambiguity in the definition by the ID card issuing organization, there is a need for advocacy for respect & recognition, political visibility, legal support acceptance and positive role of media. The access to health care and justice also needs to be supportive by sensitization.
THP0284
VULNERABLES, HUMAN RIGHTS AND HEALTH ISSUES AMONG TRANSGENDER PERSONS: A QUALITATIVE APPROACH WITH IN-DEPTH INTERVIEWS AND WORKSHOPS IN SÃO PAULO, BRAZIL

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Background: The transgender population is one of the most vulnerable minorities globally. In Brazil, they are likely to be discriminated against and have less access to health and social care. Despite the existence of some rights and policies, their implementation is not warranted. The objective of this study, conducted in the State of Sao Paulo, was to investigate vulnerabilities that prevent or limit the access of transgender persons to services and rights.

Methods: The study used both quantitative and qualitative methods. Based on our survey sample (n=673), we selected 44 people among those who had agreed to be contacted to participate in the qualitative phase (28 of them for individual, in-depth semi-structured interviews and 16 to join the workshops). During the interviews, we deepened issues previously explored in our survey, such as sexual health, discrimination experiences and transitioning. For the workshops, we used group dynamics and memory exercises in order to identify and reflect on the most recurrent violations of rights among transgender.

Results: Both during interviews and workshops, conducted between June and December of 2015, narratives involving situations of prejudice and discrimination (physical, verbal, psychological and/or extortion) were repeatedly reported and were present in almost all statements, albeit significant variations concerning their subjective perception. In both, but especially during the interviews, complaints and demands regarding health services and access to body changes (hormones and reassignment surgeries) were one of the main issues. During the workshops, the lack of job opportunities and the use of ID documents and public restrooms were reported as particularly problematic, illustrated by situations involving participants and their transgender acquaintances.

Conclusions: These results confirm difficulties in the access to health care, or even the lack of health services to assist specific needs of transgender persons. This situation is worsened by the recurrent discrimination this population is subjected to. It is well established that situations like these generate poor health outcomes and increase risk for HIV acquisition, although many other concerns appear to be at least as important for participants. A better understanding of these issues can help constructing public policies towards transgender people and minimizing the violation of their rights.

THP0285
HIV TESTING, INCIDENCE, AND SEX WORK INVOLVEMENT AMONG TRANSGENDER WOMEN IN JAMAICA

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Background: Globally stigma and discrimination are social drivers of HIV among transgender women. Transgender women are overrepresented in the Caribbean’s HIV epidemic. Yet little is known regarding transgender women’s HIV prevention and care needs in Jamaica—where there are reports of pervasive transgender stigma. We explored HIV testing, HIV incidence, and sex work involvement among transgender women in Jamaica.

Methods: Cross-sectional survey data were analyzed for transgender women enrolled in a respondent-driven community-based research study in Kingston, Ocho Rios, and Montego Bay, Jamaica. Multivariable logistic regression was conducted to identify factors associated with: ever having received an HIV test; HIV-positive serostatus; and sex work involvement in the past year.

Results: Among 150 transgender women (mean age: 24.35 [SD: 13.67], median monthly income: $124 USD [range: $0-$2489]; residence: 64% Kingston, 22% Ocho Rios, 7% Spanish Town, 2% Montego Bay, 5% elsewhere), one-fifth (20%) reported full-time employment. Half (51%) reported sex work in the past year. Three-quarters (74%) had received an HIV test; of these, 17% were HIV positive. In multivariable analyses, HIV testing was associated with: perceived HIV risk (AOR: 2.03, CI: 1.23-3.35), childhood sexual abuse [CSA] (AOR: 3.13, CI: 2.28-8.30), lower HIV-related stigma (AOR: 0.96, CI: 0.93-0.99), and not getting drunk/high during sex (AOR: 0.24-9.0). Sex workers reported higher homelessness (AOR: 18.84, CI: 4.92, 72.13), unemployment (AOR: 6.24, CI: 2.42-16.13), forced sex (AOR: 2.76, CI: 1.36-5.58), depression (AOR: 1.55, CI: 1.24-1.93), perceived HIV risk (AOR: 1.50, CI: 1.07-2.11), and transgender stigma (AOR: 1.25, CI: 1.11-1.40). HIV-positive participants reported higher interpersonal violence (AOR: 5.88, CI: 2.18-15.74), homelessness (AOR: 5.06, CI: 1.14-22.49), unemployment (AOR: 4.40, CI: 1.17-52.5), forced sex (AOR: 3.37, CI: 1.31-8.69), CSA (AOR: 2.81, CI: 1.32-7.02), transgender stigma (AOR: 1.28, CI: 1.09-1.52), and lower self-rated health (AOR: 0.51, CI: 0.29-0.89).

Conclusions: Findings reveal HIV rates of 17% among transgender women in Jamaica, and half of participants reported sex work engagement. Sex workers and HIV-positive participants were more likely to experience homelessness, unemployment, forced sex, and transgender stigma. In the context of social inequities, HIV prevention and care continuum interventions for transgender women in Jamaica must address stigma, violence, mental health, and survival needs.

THP0286
HEALTH AND HUMAN RIGHTS VULNERABILITIES OF LGBT PEOPLE IN HUMANITARIAN EMERGENCIES

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Background: While humanitarian systems have slowly become more fine-tuned to respond to the needs of marginalized populations, lesbian, gay, bisexual, and transgender people (as well as other sexual and gender minorities) continue to fall through the cracks at a policy level and in responses on the ground. Vulnerabilities related to lack of documentation, multiple checks on documents that don’t match appearances (in the case of transgender people), or assumed family structures (in the case of same-sex couple-headed households), scapegoating, disrupted access to HIV and other health services, and the erosion of informal networks of care when crisis strikes all exacerbate the marginalization that LGBT people already face in daily life.

Methods: The European refugee crisis presents unique challenges in this vein. LGBT people from the Middle East and Africa have been claiming asylum in European countries for decades, but the influx of migrants to Europe and policy decisions by the EU and member states have taxed protection systems. What is more, political declarations about accepting LGBT asylum claims have been perceived as preferential treatment and caused (in some cases) violent backlash. One study found that half of LGBT refugees seeking asylum in Europe have engaged in commercial sex; yet the needs of those engaged in sex work have been largely overlooked in the humanitarian response. In Southern Africa, armed conflict and humanitarian crises have compounded challenges faced by the region already shouldering the world’s heaviest HIV burden.

Results: While conflict-related sexual violence against women remains a significant problem, widespread sexual violence against men has been largely acknowledged by states, and the ways in which LGBT people experience conflict are widely overlooked.

Conclusions: Expanded understandings of gender and sexuality are necessary to a comprehensive response. The relationships between violence, migration, social marginalization and access to HIV services are complex; this presentation sheds light on what research to date can tell us about policy gaps, and suggests changes that should be urgently implemented to improve the health and human rights responses to all people.
FEMALE, MALE AND TRANSGENDER SEX WORKERS

THPED287
“NOTHING FOR US WITHOUT US”: THE IMPACT OF COMMUNITY PEER EDUCATORS’ (PES) INVOLVEMENT TOWARDS ACHIEVING THE 90-90-90 TARGETS; SEX WORKERS OUTREACH PROGRAM (SWOP), NAIROBI, KENYA

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Background: SWOP is the outreach arm for the University of Manitoba program in Nairobi and draws funding from CDC-PEPFAR. SWOP offers behavioral, structural and biomedical services with the aim of scaling up HIV prevention services among sex workers. A peer led hotspot based model in demand creation and mobilization as well as provision of safe spaces at the clinic is the hallmark of SWOP. A 2013 review of SWOP data showed that 75% of enrolments at the clinics were through the PEs and those clients had more knowledge on HIV transmission and prevention as compared to 25% who had not met a PE. Based on these results, a decision to involve PEs in all SWOP activities was made.

Methods: Groups of selected PEs were further trained as (1) paralegals to sensitize stakeholders (SWs, law enforcers, bar owners) on sex worker rights, (2) community Positive Health and Dignity Prevention champions (PHDP) among those HIV positive to support disclosure and linkage to care, (3) Sister to sister peer leaders to champion HIV/STI prevention and condom negotiation skills and (4) Community advisory board (CAB) comprising of SWs who form a link between the community and the program.

Other PEs were trained as Outreach workers who are in charge of a number of PEs manning a cluster of hotspots. A comparative study was conducted comparing data before the community engagement 2012-2013 and after 2014-2015. The variables compared were retention, number of violence cases reported and addressed, and number of individuals receiving evidence based interventions(sister to sister, cPH-DP).

Results: Enhanced community engagement through the specially trained PEs has improved linkage to care to 85%, Retention to 84% compared to 40% and, number of violence cases reported and addressed as compared to 25%. The above results are based on interviews with 100 respondents who had met a PE and SWs after two years. We found that retention to care among the newly engaged clients was higher than among the already engaged clients.

Conclusions: Interventions that are tailored to address sex workers’ unique SRH needs was also emphasized, along with an inclusionary, rights-based, community-empowerment paradigm.

THPED298
ASSESSING THE SEXUAL AND REPRODUCTIVE HEALTH NEEDS OF FEMALE SEX WORKERS: HOW DOES U.S. FOREIGN ASSISTANCE MEASURE UP?

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Background: The U.S. government is a major donor to global health and supports a range of programming for key populations in the HIV epidemic, including female sex workers (FSWs). In recent years, emerging research and instruments such as the Sex Worker Implementation Tool (SWIT) have increased knowledge about evidence-based best practices to effectively address HIV in sex workers, and promote their broader sexual and reproductive health (SRH) needs. We evaluated the consistency of U.S. foreign assistance with best practices in order to propose recommendations to better promote sex workers’ health and rights.

Methods: We reviewed the literature on the SRH needs of FSWs, including those related to HIV/AIDS, family planning, sexual health, maternal health and gender-based violence. We then conducted semi-structured interviews with key informants to assess how aspects of U.S. foreign assistance promote or impede the sexual and reproductive health and rights of FSWs based on best practices. Interviewees included U.S. officials, country-based implementers, researchers, sex workers and sex worker advocates, providers, and representatives from multilateral organizations.

Results: FSWs face a disproportionate burden of HIV but also experience significant unmet SRH needs related to safe pregnancy, contraception, and gender-based violence. Accessible, respectful, quality healthcare services remain the exception rather than the norm. Interviewees highlighted the challenges of addressing broader SRH needs within the HIV/AIDS agenda—funding for research among sex workers reflects the same siloing. Interviewees characterized the U.S. anti-prostitution loyalist approach as the major driver of HIV and poor SRH outcomes among sex workers. The need for approaches that are tailored to address sex workers’ unique SRH needs was also emphasized, along with an inclusionary, rights-based, community-empowerment paradigm.

Conclusions: U.S. policies such as the APLO undermine the effectiveness of the HIV/AIDS response in sex workers and are inconsistent with human rights principles. However, the U.S. is also well-positioned as both a funder of research and major international donor to promote a more inclusive HIV/AIDS agenda that addresses sex workers’ broader SRH needs and priorities. Specific policy change recommendations are addressed.

THPED299
THE CONDOM QUANDARY: HOW LAW ENFORCEMENT ACTIONS IMPACT HIV PREVENTION STRATEGIES AMONG SEX WORKERS

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Background: Sex work is illegal in China. It has been long reported that police use the possession of condoms as evidence of sex work to harass and punish sex workers. But the public debate on the impact of law enforcement on the HIV response is limited by the lack of substantiated data on the issue.

Methods: In 2015, Asia Catalyst worked with four sex worker organizations to conduct a research to understand how law enforcement practices affect sex workers’ ability to access and carry condoms. The research conducted in three major Chinese cities, combined S17 questionnaire and 74 in-depth interviews with male, female and transgender sex workers, and 18 interviews with key informants including CBOs, staff of local health authorities, managers of sex work venues, and police officers.

Results: Among S17 respondents, 51.3% (265/517) said they had been interrogated by police since engaging in sex work, and 42.9% (222/517) responded that they had been interrogated in the past year. Among the respondents, 35.4% (183/517), including female (133), male (23) and transgender (37) sex workers said they had experienced searches for condoms by the police. We compared condom use among respondents who had been interrogated by the police in the past year with those who had no such experience, and found that respondents who had experienced law enforcement action used condoms less consistently than those who had not experienced it: the rate of consistent condom use among respondents who had experienced interrogation is 47.7%, while it is 67.8% for respondents who have not had such an experience. Similar results came out for possession of condoms: 47.7% (106/222) of respondents who had been interrogated in the past year. Among the respondents, 35.4% (183/517), including female (133), male (23) and transgender (37) sex workers said they had experienced searches for condoms by the police. We compared condom use among respondents who had been interrogated by the police in the past year with those who had no such experience, and found that respondents who had experienced law enforcement action used condoms less consistently than those who had not experienced it: the rate of consistent condom use among respondents who had experienced interrogation is 47.7%, while it is 67.8% for respondents who have not had such an experience.

Conclusions: While such a discrepancy was most evident among women.

Conclusions: We found that law enforcement practices have a negative impact on sex workers’ possess and use of condoms. Police reform and community-policy cooperation is crucial to HIV prevention among criminalized groups, and should be supported as a central part of HIV programming.

Author Index

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Background: Sexual and gender-based violence (SGBV) is common between female sex workers (FSWs) and their male clients (MCs). SGBV is associated with increased HIV risk, yet incidents often go unreported due to gender and economic power imbalances that characterize commercial sex. We examined the manifestations of SGBV from the perspectives of both FSWs and MCs to better understand the contexts in which SGBV occurs.

Methods: We conducted in-depth interviews with 25 FSWs and 25 MCs recruited from 18 bars/nightclubs in Mombasa. Interviews were audio-recorded, transcribed, and translated from Kiswahili to English. Transcripts were analyzed thematically using Dedoose.

AIDS response. Many also identified criminalization more broadly as a continuing driver of HIV and poor SRH outcomes among sex workers. The need for approaches that are tailored to address sex workers’ unique SRH needs was also emphasized, along with an inclusionary, rights-based, community-empowerment paradigm.

Conclusions: U.S. policies such as the APLO undermine the effectiveness of the HIV/AIDS response in sex workers and are inconsistent with human rights principles. However, the U.S. is also well-positioned as both a funder of research and major international donor to promote a more inclusive HIV/AIDS agenda that addresses sex workers’ broader SRH needs and priorities. Specific policy change recommendations are addressed.
Results: Most FSWs had experienced either verbal or physical manifestations of SGBV perpetrated by MCs; only six reported no SGBV incidents. The two most common forms of violence that FSWs reported were being beaten up by MCs or forced to engage in unprotected vaginal sex; one FSW had been raped anally. FSWs also encountered verbal abuse, which frequently occurred when MCs refused to pay for sexual services. Most MCs, in turn, reported that they had resorted to violence after FSWs stole their money or phones, tried to drug them or threatened to blacklist them if there was disagreement over payment. FSWs reported that it was easy for MCs to threaten, harm or refuse to pay them if sex occurred at MC’s homes. Guesthouses were therefore considered safe places because security personnel could intervene when conflicts arose. Few FSWs and MCs reported SGBV to police for fear of being ill-treated and possibly arrested. MCs also expressed fear of being blackmailed by FSWs or the police.

Conclusions: FSWs need to be better protected against SGBV and MCs need to be educated against resorting to physical violence with FSWs. FSWs could benefit from skills-based peer education about how to mobilize SGBV avoidance and management strategies. Police should be sensitized on handling reported SGBV from FSWs and MCs. In the long-run, strategies are needed to tackle male privileged power and gender norms that condone male violence; legalization of sex work might encourage FSWs and MCs to report incidents to the police.

THPED291

INCREASING ACCESS TO HIV PREVENTION SERVICES FOR FEMALE SEX WORKERS THROUGH MOONLIGHT OUTREACHES IN KIRINYAGA COUNTY, KENYA

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Background: Female sex workers (FSWs) often experience barriers in accessing health services. They also suffer additional barriers to access health services due to stigma; discrimination. Kirinyaga is one of the Counties in Kenya with 12 sub counties with an estimate of 4,000 FSWs. The adult HIV prevalence is 3.3% (NASCOP 2013). The program has employed 10 peer educators (PEs) to reach out to the estimated FSWs with HIV programs and services. The program has also established one drop in service centre which acts as a safe space for FSWs. In 2014, the Kenyan national guidelines for key populations which includes FSWs was revised and it recommended to use peer educators (PEs) in delivering routine HIV combination prevention interventions through planned community outreaches.

Description: During micro planning exercise hotspot listing was done which gave size estimates per hotspot. Hotspots are distinct places where FSWs solicit their clients. In order to improve access to HIV services, the program conducted routinely 20 moonlight clinics in a month in hotspots so as to increase the access of HIV services to FSWs who solicit clients in those hotspots. Services that were offered through moonlight clinics included HTC, screening and treatment of sexually transmitted infections, condom and lubricant distribution, health education, linkage to HIV care for those who tested HIV positive.

Lessons learned: The program quarterly uptake of contacts and HIV services have increased from Sept, 2014 to Sept 2015 with contacts increasing from 33% to 95% during the above period. HIV testing and counselling increased significantly from 15% to 35%, while STI screening increased from 52% to 95% with the STI positivity rate decreasing significantly from 10% - 1% during the same reporting period respectively.

Conclusions/Next steps: Structured outreaches with peer educators’ involvement and improving access to HIV services through routine moonlight, increases services uptake among female sex workers. The program now plans to recruit more peer educators at the rate of one Peer educator to 60 FSWs to ensure that all the female sex workers are reached and ensure that a high number of FSWs are able to access HIV services.

THPED292

DEVELOPING COLLECTIVE LEADERSHIP IN HIV RESPONSE: AN INNOVATIVE APPROACH TO COMMUNITY-LED TRAINING ON SEX WORK, HIV AND HUMAN RIGHTS AMONG SEX WORKERS IN EUROPE

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Background: This presentation documents and reflects on community-led capacity building programme on ‘Sex Work, HIV and Human Rights’ developed by ICRC. This programme was initiated in 2014 in order to address health needs of sex workers in Europe and to build sex workers’ capacity to engage in the HIV response at the community, national and regional level.

Description: This innovative and multifaceted project consisted of a series of participatory trainings organised by ICRC with the cooperation of sex worker collectives in Europe. A five-day regional workshop facilitated awareness-raising and knowledge-building efforts amongst sex workers and supported community engagement in advocacy for sex workers’ health rights. Subsequently, leaders of 5 local sex worker organisations were supported in sharing knowledge from the training by conducting context-specific national workshops for their communities. These local workshops were accompanied by the development of the sex worker-only e-learning space through which particularly isolated sex workers could gain knowledge and interact with their peers from across Europe. Eventually, ICRC published community training manual: a tool for organising and leading community trainings on issues related to sex workers’ vulnerability to HIV and human rights.

Lessons learned: The community-led character of the workshops facilitated knowledge and experience sharing among the participants and allowed different communities of sex workers to openly voice their health concerns. In several countries, ICRC workshops encouraged sex workers to advocate for their health rights despite initial fear of discrimination from health professionals. In others, trainings were successful in promoting community empowerment as a key component of HIV programming and an effective way to address structural factors increasing sex workers’ vulnerability to HIV. Economic and social exclusion also constituted a serious barrier to sex workers’ involvement in the programme, e.g. the loss of income while attending the workshops should be taken seriously as a barrier for the most precarious sex workers.

Conclusions/Next steps: Community empowerment has been recognised by the UNAIDS and WHO as indispensable for the development of well-informed and effective HIV prevention programming. ICRC training programme served as a tool to support community mobilisation in the region and facilitated sex workers’ involvement and collective leadership in response to HIV/AIDS.

THPED293

ARE THE LEGAL AND POLICY CONTEXTS IN MALAWI FAVOURABLE TO EQUITABLE ACCESS TO TREATMENT, CARE AND SUPPORT SERVICES FOR FEMALE SEX WORKERS?

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Background: The primary mode of HIV transmission in Malawi is unprotected heterosexual sex. Female sex workers are particularly vulnerable and this population tends to have a higher prevalence of HIV infection (70%) than the general population (10.6%) because they engage in behaviours that put them at a higher risk of becoming infected. The National HIV Prevention Strategy and the National HIV and AIDS Strategic Plan (2011-2016) were prepared to guide the implementation of HIV prevention interventions. But are these policies and strategies inclusive and favourable for female sex workers?

Description: From 2012 to 2015 Badilika Foundation has implemented a PMTCT project with funds from ViiV Healthcare aimed at reducing new HIV infections among FSWs and their clients and preventing unintended pregnancies with a focus on improving access to modern contraceptive methods. The project looked into promoting equitable access to quality HIV prevention, testing, treatment, care and support for FSWs from a human rights and public health based approach. Major activities included training peer educators on their role in project implementation; educating FSWs on safe sex practices and family planning, behavioural change communication, strengthening community networks, facilitating referrals, capacity development of rights holders and duty bearers on human rights of FSWs, and conducting mobile HTC clinics at hot spots.

Lessons learned: Our observation shows that many stakeholders including the police, health workers and FSWs themselves are not aware of the laws and provisions that protect the female sex workers’ rights. Health facilities are not accessible and friendly to female sex workers. Health workers violate sex workers right to health by judging them and even denying them health services.
Conclusions/Next steps: The project enabled FSWs to make informed decisions about their sexual and reproductive health, reduced stigma and discrimination by service providers and has improved access to health services. But there are many policy gaps affecting FSWs. In future community engagement and empowerment requires involving FSWs in the design, research, implementation, monitoring, evaluation, of policies and programmes that affect their lives because without their active engagement and involvement efforts to provide access to HIV prevention, treatment, care and support will not be optimally effective.

THPED294
COMMUNITY COLLECTIVIZATION, FINANCIAL SECURITY AND HIV RISK BEHAVIORS AMONG FEMALE SEX WORKERS IN INDIA: FINDINGS FROM AVAHAN-III EVALUATION STUDY

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Background: Recent research studies show that community collectivization and financial security are crucial to defy HIV risk among female sex workers. This study assesses collective action and financial security among FSWs, and explores its association with HIV risk behaviors in India.

Methods: Data were drawn from the Avahan-III baseline evaluation survey-2015, conducted among FSWs (n=4098) in five states of India. Two stage cluster sampling approach was used to select the required number of FSWs for the survey. Adjusted odds ratios (AOR) and their 95% confidence intervals (CI), Bivariate and univariate analysis were conducted to assess the relationships between collective action and financial security with HIV risk behaviors.

Results: Nearly half of the FSWs (48%) were having high level of collective action (e.g. community members came together for a problem), 68% had functional savings account either in a nationalized bank or post office, and 19% invested in insurance schemes or gold/land/business etc. FSWs, those who had high level of collective action (85% vs. 78%; AOR: 1.6) and had invested in insurances/gold/land/business (84% vs. 79%; AOR: 1.4) were significantly at higher chances of using condom consistently with both regular as well as occasional clients than others. The odds of using condom consistently with both regular and occasional clients were also higher among FSWs those had functional savings account at the time of the survey. Similarly, likelihood of using consistent condom use with non-regular partners were also higher among FSWs those had higher level of collective action than their counter parts.

Conclusions: Findings from the study show that there was a significant association between collective action and financial security with consistent condom use with different type of clients among FSWs. Maintenance of high level of consistent condom use is central to improve the sustainability of HIV prevention programs. However, more community outreach activities, research and advocacy are required to highlight these issues in a wider context in other high risk group population including FSWs.

THPED295
HIGH CO-OCCURRING STI AND HIV PREVALENCE AND THE POOR TREATMENT CASCADE AMONG FEMALE SEX WORKERS IN DURBAN, SOUTH AFRICA

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Background: National studies in South Africa have estimated HIV prevalence among Female Sex Workers (FSWs) to be between 46-69% significantly higher than the 13.3% HIV prevalence among women in the general population. In high prevalence settings or with key populations the World Health Organization recommends regular HIV testing, with linkage to care, however, there is insufficient information on exploring the correlation of STI testing behaviour or linkage to care.

Methods: The data reported in this paper were collected in 2012 using a cross sectional survey and HIV rapid testing, conducted for an ongoing multi-country research project among FSWs in India, Kenya, Mozambique and South Africa. Participants were recruited using respondent driven sampling, in total 400 FSWs participated. Data were entered into Intercooled Stata v.11 and descriptive analyses conducted.

Ethics approval was attained from the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg, South Africa (M120525).

Results: Participants are between 21-30 years of age; hold a primary education 69.4%. Estimated having between 1-7 partners a week (43.2). Few FSWs know the HIV status of their regular paying partners (12.2%) or their last non-paying partner (8.3%). Condom use at last sex with a paying partner is estimated at 71% and lower with regular non-paying partners 63%. Additionally 65.3% of FSWs reported condom breakages in the last year. The biological data collected indicate that HIV prevalence among FSW in Durban is 66.9%. Of the FSWs who self-reported an HIV positive status 18% are currently accessing antiretroviral therapy (ART). Seventy percent of FSWs reported experiencing an abnormal discharge or genital ulcer within the last 12 months, of these 92% sought care, 47.7% were satisfied with the care they received. Unplanned pregnancies in the last 5 years were reported by 37.3% and 67% reported male condoms as their primary method of contraception.

Conclusions: There are multiple risk factors that increase FSWs risk of STI and HIV infection and transmission. These findings highlight the need and importance of integrating, providing and promoting family planning in addition to regular STI and HIV prevention, testing and treatment services for FSWs.

THPED296
SEX WORK AND THE CITY: A COMPARISON OF FEMALE SEX WORKERS IN TWO SOUTH AFRICAN CITIES

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Background: The HIV prevalence in sex workers is significantly higher than in the general population. In order to achieve the 90-90-90 target set by UNAIDS, this hidden population must be accessed and effective programs implemented. The Wits Reproductive Health and HIV Institute provides healthcare services to sex workers in Hillbrow and Tshwane and the study was conducted to better characterize the drivers of the HIV epidemic and to inform more targeted and efficient HIV programming for sex workers at these sites.

Methods: Study participants (n=174) were women aged 18 years and older who self-identified as sex workers. A standardized questionnaire was administered in face-to-face interviews, which included questions on socio-demographic characteristics, sexual behaviour, sexual and reproductive health knowledge, risk behaviours and contraceptive use. We used Chi square to compare the characteristics of FSW from the two sites.

Results: Of the 174 participants enrolled into the study, 124 were based in Hillbrow and 50 in Tshwane. Our data show that there are significantly more FSW of Zimbabwean origin working in Hillbrow than in Tshwane (p< 0.01) and FSW in Hillbrow tend to stay at the brothel where (p< 0.001). There was no significant difference in the level of education between the FSW at both sites (p< 0.1) and no significant difference in HIV status at between the two sites was observed (Hillbrow 39.5%, Tshwane 42.8%, p< 0.44). Although there were significantly more FSW who received information STI/HIV information in Tshwane, there were more STI cases reported in Tshwane than in Hillbrow (p< 0.04). Similarly, there were fewer cases of condom failure reported in Hillbrow than in Tshwane (p< 0.0319). We observed no significant difference between the sites in the amount of FSW who are receiving treatment for HIV.

Conclusions: Although the two sites characterised in this study are both inner-city and both in Gauteng there are numerous important differences between these two populations. The study highlights the importance to consider the uniqueness in composition, migrancy, behaviours and health profile of individual sites when implementing services for sex workers.

THPED297
PARTICIPANT PERSPECTIVES ON ETHICAL CONSIDERATIONS FOR THE COLLECTION OF GEOGRAPHIC INFORMATION IN HIV AND SUBSTANCE USE RESEARCH

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Background: In substance use and HIV-related research, geographic information can help identify ‘hot spots’ and ‘healthy service deserts’, evaluate associations between proximity to health services and their use, and link contextual factors with individual-level data to understand environmental influences on risk/health-seeking behaviors. Technological advancements in the methods used to collect location data can improve the accuracy of contextually-relevant geographic data; however, they...
have outpaced the development of ethical standards and guidance, particularly for research involving populations engaging in illicit/stigmatized behaviors. The purpose of this qualitative study was to (1) explore participant comfort with and perceptions regarding privacy, confidentiality, and safety associated with different geographic data collection methods used in substance use and HIV-related research and (2) determine the extent to which these concerns could influence study compliance and the validity of participants’ responses.

Methods: Between November 2014 and April 2015, we recruited 15 Baltimore residents reporting recent drug use via flyers and peer-referral to complete in-depth qualitative interviews exploring perceptions regarding acceptability and ethics of three methods for collecting geographic data: (1) surveys collecting self-reported addresses/cross-streets, (2) surveys using web-based maps to find/confirm locations, and (3) geographical momentary assessments (GMA), which collect spatiotemporally referenced behavioral data via mobile applications on GPS-enabled smartphones.

Content analysis identified concerns and perceived likelihood of participation and compliance in studies using these methods.

Results: Although the collection of geographic data was generally viewed as acceptable, participants raised concerns relating to confidentiality and comfort regarding providing exact addresses for illicit/stigmatized behaviors (e.g., purchasing, using drugs). Further, many felt that concerns about the confidentiality of such “sensitive” locations could influence the accuracy of the information provided.

Specific to GMA studies, concerns included the burden of carrying/safeguarding study phones and responding to survey prompts, confidentiality issues, discomfort with being tracked, and noncompliance with study procedures (particularly while study phones and responding to survey prompts, confidentiality issues, discomfort “sensitive” locations could influence the accuracy of the information provided.

Specific to GMA studies, concerns included the burden of carrying/safeguarding study phones and responding to survey prompts, confidentiality issues, discomfort with being tracked, and noncompliance with study procedures (particularly while study phones and responding to survey prompts, confidentiality issues, discomfort while high/getting high).

Conclusions: Concerns raised by participants could result in differential study participation, differential compliance with data collection procedures, and questionable accuracy and validity of location data for sensitive behavior. Additional research engaging with this population is needed to develop and refine innovative methods for collecting accurate, real-time geographic information on substance use and related risk behaviors.

THPDE298

SEXUAL VIOLENCE FROM POLICE AGAINST HIV-INFECTED WOMEN WHO INJECT DRUGS IN ST PETERSBURG, RUSSIA: A MIXED METHODS ANALYSIS OF PUBLIC HEALTH AND HUMAN RIGHTS IMPLICATIONS


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Background: Police violence against people who inject drugs (PWID) is common in Russia and associated with HIV risks. Sexual violence from police against women who inject drugs has been reported anecdotally in Russia. This study aims to evaluate police sexual violence against HIV-infected women who inject drugs via quantitative assessment of its prevalence and HIV risk correlates, and through qualitative interviews with police, substance users, and their providers in St. Petersburg, Russia.

Methods: Cross-sectional analyses with HIV-infected women who inject drugs (N=228) assessed the associations between police sexual violence victimization (i.e., having been forced to have sex with a police officer) and the following behaviors: current drug use, needle sharing, and injection frequency using multiple regression models. We also conducted in-depth interviews with 23 key informants, including PWID, police, civil society organization workers, and other stakeholders, to explore qualitatively the phenomenon of police sexual violence in Russia and strategies to address it. We analyzed qualitative data using content analysis.

Results: Approximately 1 in 4 women in our quantitative study (24.1%; 95%CI, 18.6%, 29.7%) reported sexual violence perpetrated by police. Victims reported more transactional sex for drugs or money than non-victims; however, the majority of those victimized were not involved in these forms of transactional sex. Victimization was not significantly associated with current drug use or needle sharing. However, victims reported more frequent drug injections (adjusted incidence rate ratio 1.43, 95%CI 1.04, 1.95). Qualitative data suggested that police sexual violence and coercion appear to be entrenched as a norm and are perceived insurmountable because of the seemingly absolute power of police. Police sexual violence is a human rights violation and systematically add to the risk environment of women who use drugs in Russia.

Conclusions: Police sexual violence was common in this cohort of Russian HIV-infected women who inject drugs. Our analyses found more frequent injection drug use among victims, suggesting that the phenomenon represents an underappreciated human rights and public health problem. Addressing police sexual violence against women in Russia will require raising social awareness and instituting police trainings that protect vulnerable women from violence and prevent HIV transmission.

THPDE300

SOCIAL AND STRUCTURAL FACTORS ASSOCIATED WITH GREATER TIME ABOVE AN HIV VIRAL LOAD OF 1500 COPIES/ML: A PLASMA AMONG ILLICIT DRUG USERS IN A CANADIAN SETTING

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Background: Although previous studies have characterized temporary increases in plasma HIV-1 RNA viral load (VL) among HIV-positive people who use drugs (PWUD), factors associated with longer periods of time with heightened HIV transmission potential have not been investigated. Therefore, we examined factors associated with amount of person-time spent above a VL threshold that increases risk of transmission to others among HIV-positive PWUD in Canada.

Methods: Data were derived from the AIDS Care Cohort to evaluate Exposure to Care Services (ACCESS), a long-running prospective cohort of HIV-positive PWUD linked to comprehensive clinical monitoring records. We used Poisson regression to longitudinally examine factors associated with person-time (in days) above a VL of 1500 copies/ml in the previous 180 days.

Results: Between December 2005 and May 2014, 845 participants were included in the study, including 581 (69%) males and 464 (55%) who self-reported Caucasian ancestry. Of these, 593 (70%) spent at least one day with a VL above 1500 copies/ml during the study period. In a multivariable model, homelessness (Adjusted Rate Ratio [ARR] = 1.50; 95% confidence interval [CI]: 1.36 - 1.65), and having no social support (ARR = 1.36; 95% CI: 1.23 - 1.49) were independently and positively as-
associated with amount of time spent over 1500 copies/ml. Age (ARR = 0.97; 95% CI: 0.97-0.98), enrolment in addiction treatment (ARR = 0.73; 95% CI: 0.65-0.82), and CD4 cell count (ARR = 0.81; 95% CI: 0.78-0.85) were independently and negatively associated with time spent over 1500 copies/ml.

Conclusions: Among HIV-positive PWUD, periods of homelessness or lacking in social support were independently associated with greater time experiencing an elevated VL. Our findings suggest the need for targeted prevention efforts to address modifiable factors associated with risk of HIV transmission among PWUD.

THPED301
A DECADE OF HARM REDUCTION AND THE PROJECTED IMPACT OF 10BY20

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Background: Harm Reduction International (HRI), a leading non-governmental organisation working to promote and expand support for harm reduction, has been tracking developments in HIV and viral hepatitis related harm reduction worldwide since 2007. This paper highlights the key findings from a decade of information on harm reduction services across the globe, using mathematical modelling to illustrate the importance of investment in harm reduction for the reduction of HIV among people who inject drugs.

Methods: Information presented in this paper was sourced using international scientific and grey literature, reports from multilateral agencies, international non-governmental organisations, organisations of people who use drugs, biennial surveys to civil society and harm reduction networks, expert consultation from academics and those working on HIV, drug use and harm reduction. Using the body of available data HRI, in collaboration with the Kirby Institute, developed a mathematical model to map future projections of harm reduction scale up and the impact a small shift in investment from punitive measures towards drugs to invested globally. 2.5% ($2.66 billion) of current estimated global spend on drug law enforcement would bring harm reduction coverage levels to mid-range coverage among PWID by 2030.

Results: Just 7% of what is currently required ($2.5 billion) to fund harm reduction is invested globally. 2.5% ($2.66 billion) of current estimated global spend on drug law enforcement would bring harm reduction coverage levels to mid-range coverage as advised within UN guidance. Modelling data projects a 78% reduction in HIV among PWID. 10BY20 advised within UN guidance. Modelling data projects a 78% reduction in HIV among PWID.

Conclusions: Harm reduction is cost-effective and effective in reducing HIV and HCV among PWID. A small shift in investment from punitive measures related to drug control towards harm reduction could have on the HIV and HIV related deaths among PWID.

THPED303
REFINING THE RESEARCH RESPONSE: INDIGENOUS LEADERSHIP IN HIV RESEARCH

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Background: Research can be a useful tool to better understand and address HIV. In Canada, HIV is epidemic in Indigenous communities, many of whom are joining researchers in seeking to inform effective responses to preventing new and co-infections, eliminating stigma and discrimination and reducing AIDS-related deaths. As a nationally recognized leader in Indigenous HIV Community-Based Research, the Canadian Aboriginal AIDS Network (CAAN) has partnered with some of Canada’s top research institutions to develop a strategic research response to HIV that is Indigenous-led, grounded in community concerns, and relevant across scientific disciplines.

Methods: Our interdisciplinary research team, including social and biomedical scientists, have used a multi-method and phased approach to strategy development including:

1) a comprehensive literature review of existing Indigenous HIV research;
2) 19 in-person consultations across Canada with a broad range of stakeholders, including Indigenous people living with or affected by HIV, researchers, clinicians, health care and service providers, and Traditional Knowledge Keepers; and,
3) an online survey. In total, we spoke to 212 individuals, 60% of whom self-identified as Indigenous, about their HIV-related research needs and preferred approach to research. To ensure that our findings reflect the broadest range of stakeholders, we also attended eight HIV-related research meetings and ‘member checked’ our preliminary findings with three groups of Indigenous stakeholders.

Results: Strategic research priorities include: understanding and addressing the impacts of racism, colonization, and HIV-related stigma and discrimination on Indigenous peoples’ health; facilitating access to health-care, including HIV testing, care, treatment and support; and the intersections of mental health, substance use, and social determinants. Findings confirm that successful HIV-related research with Indigenous communities must be Indigenous-led or partnered, and engage Indigenous communities and Indigenous people living with HIV in the research design, implementation, analysis and dissemination of results. This is true for all HIV research, regardless of discipline or research design.

Conclusions: Indigenous and non-Indigenous communities are mobilizing around the urgent need for Indigenous-led responses to issues that impact Indigenous communities, including HIV. Strategically identifying Indigenous HIV research priorities in a consolidated strategy that is evidence-based, Indigenous-led and grounded in community-identified need will increase the quality and relevance of new investigations.
THPED304
GLOBAL INDEPENDENT YOUTH: RECLAIMING CULTURAL AND LAND BASED METHODS CONCERNING STIGMA, SEXUAL HEALTH AND HIV/AIDS

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Background: The Panel will consist of four Indigenous Youth leaders whom will be addressing a number of Indigenous global issues. Focused on resisting, reshaping, and remodeling new ways to educate their communities around stigma and shame. Stigma and Shame is highly prevalent in Indigenous communities related to HIV/AIDS and Sexual and Reproductive Health. The panel will lead a discussion addressing the Global Indigenous Youth Council on HIV/AIDS and Sexual and Reproductive Health Rights with ways of encouraging Indigenous Youth cooperation and global solidarity for the Indigenous HIV movement.

Description: This will be a panel discussion with grassroots young Indigenous youth who are taking up leadership in their communities. As role models they will share ways in which they address shame and stigma in culturally relevant ways within each of their communities. This panel will discuss the practical implementation of what reducing shame and stigma for so-called “marginalized” groups actually looks like globally in practice, through the lens of activism, resistance of settler colonialism, and solidarity of a global movement of Indigenous youth.

Reducing shame and stigma in young Indigenous peoples’ because it includes a wide variety of openness that includes self-ID women, men, 25, Queer, trans, etc youth. In this way, we can remain broad while sharing our own stories of resistance and resiliency within our own Native Nations while opening the conversations to be continued by others. Panels include: Ihehnte Foote, Keioshiah Peter, Letisha Parter & Brent Huggins.

Lessons learned: We would assist the audience in actively being involved, supporting and taking the initiative to create and promote new health models, colonial models, whilst promoting conversations around accountability for creating further harm and violence against certain voices.

Conclusions/Next steps: Leaders and youth creating sustainable discourses among Indigenous communities through utilizing youth narratives that can be implemented in community-based organizations.

Furthermore, another expected outcome is the reduction of stigma of HIV in Indigenous community through activism, raising awareness, and increasing solidarity of indigenous youth in the HIV movement. This will be accomplished through the audience participation, support, and promotion of new health models that provide accountability against harm and violence.

THPED305
UNDERSTANDING HEALTH CONSEQUENCES OF THE U.S. PRISON RAPE ELIMINATION ACT (PREA) FOR INCARCERATED TRANSGENDER WOMEN: IMPLICATIONS FOR SEXUAL ASSAULT AND HIV TRANSMISSION RISK

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Background: In the United States, transgender women are disproportionately at risk for HIV infection and incarceration relative to cisgender (non-transgender) women and men. Most U.S. correctional institutions house transgender women with men if they have not had gender reassignment surgery. While in male prisons, transgender women are targets of sexual assault, which place them at risk for HIV infection. The Prison Rape Elimination Act (PREA) was designed to protect the most vulnerable prisoners (e.g., transgender women) against sexual assault and HIV acquisition, yet the extent to which this policy is serving its intended purpose is unknown.

Methods: Phase 1: From June-August 2015, semi-structured interviews were conducted with 20 racially diverse, formerly incarcerated U.S. transgender women. Interviews assessed participants’ sexual relationships, perceived risk for acquiring or transmitting HIV, and whether and how PREA was enforced in U.S. male prisons. Phase 2: A critical policy analysis was conducted to understand the health and human rights implications of PREA for transgender women in male prisons.

Results: Interviews with formerly incarcerated transgender women and the policy analysis revealed that PREA has failed to adequately protect transgender women against sexual assault and control the spread of HIV infection. Participants reported engaging in condomless consensual and non-consensual sex while in prison. Sex was often used for survival to ensure their physical protection or to receive goods in the absence of social and material support inside and outside of prison. Participants reported being penalized by prison staff for engaging in sexual behavior regardless of whether the sexual act was consensual or unwanted. Participants expressed concern about HIV acquisition while in prison, with several women reporting that they may have acquired HIV while incarcerated.

Conclusions: The transgender women sampled engaged in survival sex while in prison and were also the victims of sexual assault - unprotected sexual acts with consequences for HIV transmission and acquisition. While designed to protect the safety of incarcerated transgender women, our research suggests that PREA has not only failed to prevent sexual assault and control the spread of HIV, but has also had the unintended consequence of penalizing those whom it intended to protect.
We use a descriptive analysis of the included aspects of the vulnerabilities. Results: Most of the women are originally from South America (93.7%), and Brazil (91.8%) - São Paulo (91.2%). For international origin, Angola (15.6%), and South Africa (13.3%) predominated. Self-reported race/color in 44.5% was grayish-brown; 68.4% had completed only the elementary school. The predominated occupation was maids (14.4%), and other works with lower training. 52.5% reported being single; 84.0% had children - 64.5% two or more. 20 (1.8%) women reported current existence of pregnancy; 66.5% had sex only with men. 31.3% reported never using condoms. 55.0% reported using contraception. 38% have an abortion history, and 500 (45.5%) present or have presented STDs - syphilis (26.0%), HIV/AIDS (11.6%), and condylomatosi (2.6%). Risk situations: have had or have sex without a condom (78.8%), already have used or use drugs (61.5%), have had or have multiple sexual partners (36.2%), partner have had or have many partners (33.4%), already have worked or work as sex worker (21.1%), and have been victims of sexual violence (18.6%).

Conclusions: This population-based survey reinforces the status of great individual, programmatic and social vulnerability of the women in the state penal system, both in urban and rural realities. Most women in prison are from socially marginalized groups. Gender inequality, migration, stigma, and discrimination increase imprisoned women's vulnerability to HIV infection and syphilis.
THP0310
WOMEN’S EXPERIENCES OF HIV TESTING, COUNSELLING AND CARE IN JAIL AND PRISON IN THE DEEP SOUTH: AN EXPLORATORY QUALITATIVE STUDY AMONG WOMEN WITH HISTORIES OF VIOLENCE AND SUBSTANCE DEPENDENCE

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Background: Individuals in jail and prison settings, globally, are a key-affected population with unmet needs for health and HIV care. Studies of justice-involved women with HIV are few. While HIV testing in jails and prisons is routine in many US states, justice-involved women typically have histories of violence, mental illness and substance use—facing significant barriers accessing HIV services while incarcerated and following release. Moreover, they are not identified within the National HIV/AIDS Strategy: indicating they are neglected in policy. Study objectives were to: 1) Explore women’s experiences accessing HIV services in jail, prison and post-release in two Alabama cities where HIV incidence is high; 2) Identify the available care continuum, linkage opportunities and gaps.

Methods: We employed a descriptive, exploratory design using qualitative methods; purposively selecting participants who were: female; HIV-positive; with multiple experiences of incarceration in jail/prison. Two CBO partners identified eligible potential participants. We conducted in-depth interviews (range of 34-134 minutes; average 74) with 28 participants in Birmingham and Montgomery during January 2014. Two researchers conducted independent coding, producing preliminary codes from transcripts using content analysis. We developed themes through an iterative process of verifying and refining final themes among the team.

Results: (1) Pervasive stigma/discrimination in jail/prison based on HIV-positive serostatus, encompassing: segregation of HIV-positive women in designated dorms (part of Alabama policy until 2012); verbal abuse; food rationing; confinement; forced disclosure of HIV serostatus; tattooing with unsterilized instruments; (2) Absence of counselling following initial HIV-positive diagnosis in jail/prison; (3) HIV treatment hindered by: a) delays; b) interruption; c) denial by corrections staff; (4) Poor health conditions, overcrowding and infrequent medical care; (5) Psycho-social support drawn from inmates, guards, church; (6) Lack of discharge planning; (7) Few services post-release.

Conclusion: Four strategic opportunities remain unexploited for HIV care/support—comprising the care continuum for justice-involved, which may be relevant for other settings:
(1) On Entry: providing post-test counseling;
(2) During Incarceration: rapid and consistent treatment initiation;
(3) Discharge Planning: identifying community-based HIV, substance rehabilitation, housing, and mental health services;
(4) Post-Release: linking women to clinics and social services through partnerships between corrections departments and CBOs trusted by justice-involved women.

THP0311
PATIENT NAVIGATION IMPROVES LINKAGE TO COMMUNITY-BASED HIV CARE AND VIRAL SUPPRESSION AFTER RELEASE FROM PRISON

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Background: Prior research has shown that while many patients successfully receive antiretroviral therapy (ART) while incarcerated in U.S. prisons, lapses in treatment and virologic failure are common after patients are released to the community.

Methods: We conducted a retrospective cohort study including all HIV-infected patients receiving ART and released from a Wisconsin state prison between 2011 and 2015. Starting in 2013, individuals planning to be released to one of the 2 largest cities in Wisconsin were offered enrollment in a patient navigation intervention that involved frequent phone contact, linkage to care and social services, and assistance with housing and transportation. Post-release HIV care and laboratory results were ascertained through database linkages between the Department of Corrections and the Wisconsin Enhanced HIV/AIDS Reporting System (eHARS). Using logistic regression with generalized estimating equations to account for intra-individual correlation, we compared post-release outcomes between intervention participants and non-participants with respect to (1) linkage to care, defined as evidence of any HIV RNA test reported to eHARS during the first 6 months after release; and (2) viral suppression, defined as having HIV RNA< 200 copies/mL.

Results: Between January 2011 and June 2015, 145 individuals were released from prison to a total of 184 times Of These, 42 individuals were enrolled in the patient navigation intervention at the time of release, while 103 received only standard clinic-based case management. Overall, the sample was 92% male, 59% African American, and 36% reported a history of injection drug use (IDU); there were no significant differences in the demographic characteristics of participants and non-participants. Releasees were more likely to be linked to care within six months [92.8% vs 65.5%, p< 0.001] and were more likely to have viral suppression (85.7% vs 45.1%, p< 0.001) when participating in the patient navigation intervention. After adjusting for age, gender and IDU status, intervention recipients were significantly more likely to be virally suppressed six months after release (adjusted OR=7.4, 95% CI = 3.0 - 18.2).

Conclusions: Patient navigation offering client-centered linkage to services and social support appeared to significantly improve linkage to community-based HIV care and viral suppression after release from prison.

THP0312
IMPROVING ACCESS TO JUSTICE FOR PRISONERS AS A KEY POPULATION AND ADVOCACY FOR HEALTH RIGHTS: UGANDA NETWORK ON LAW, ETHICS AND HIV/AIDS (UGANET) EXPERIENCE

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Background: HIV epidemic in Uganda continues to be a major health, human rights and development challenge despite fervent prevention efforts in prisons. HIV prevalence among inmates is 11.2%, making it almost twice as high as national prevalence rate estimated at 7.3%. The Uganda prisons Services accommodates over 2,000 inmates living with HIV/AIDS in 224 units. UGANET found it important to support inmates access justice health services.

Description: UGANET established Legal Aid and Health Advocacy programs in collaboration with Uganda Prisons Service to champion HIV related human rights and broader Health issues for inmates and staff. The objective was to engage policy makers on legal, health and HIV needs for prisoners, increase access to legal aid services, awareness raising and strengthen service systems to facilitate an enabling legal environment for improved HIV and human rights response. This project was implemented in Luzira and Kigo prisons in Uganda. During the implementation of this program, inmates were identified and trained to work as paralegals. UGANET lawyers provided legal aid services, conducted sensitizations on access to justice for prisoners living with HIV&B & dialogues with key prison staff on access to justice were held.

Lessons learned: A survey was conducted among 713 (453M:258F) inmates randomly selected in units of Murchison bay, Luzira women prison, Luzira Upper prison and Kigo men’s prison. The findings were; 30% M & 25% for female inmates accessed justice and health rights. This was made possible through the availability of inmate paralegals who were trained on basic human rights and given skills to be focal persons for lawyers. The impact was realized through lodging 51% Notices of appeal in higher courts of law, 24% bail applications filed, 11% cases on indictment and committal cause listed. 11.2% of the inmates with health needs enrolled for TB&HIV screening and treatment. These results confirm the need to support inmates and staff with legal aid services and advocacy for better health.

Conclusions/Next steps: Providing and advocating for legal and health rights is critical for people in incarceration living with HIV&B, it mitigates human rights violations and health challenges. Availability of lawyers who are willing to offer free legal services remains an issue of focus.
Background: China is “ground zero” for the dual epidemics of HIV and incarceration in the United States. One-third of the nation’s jail population is located in Louisiana, and HIV rates are among the highest in the nation. Yet access to HIV testing, treatment and re-entry services in local jails range from limited to nonexistent. Flawed bail procedures, excessive fines that result in incarceration and other failures of the criminal justice system ensure lengthy detention, exacerbating negative health consequences for PLWHA in local jails and pushing people out of the continuum of care.

Methods: Following a mixed methods study in March 2016 that documented lack of access to HIV services in rural and urban Louisiana jails, an advocacy campaign was conducted to focus on reforms at the intersection of the criminal justice system and HIV. Specific policies are linked to specific harms and public health arguments are used to promote reform. For example, the need for reasonable bail, reduction of fees and costs that result in detention, and alternatives to incarceration for minor crimes such as drug possession are linked to longer periods without anti-retroviral medications for people living with HIV incarcerated in Louisiana jails.

Results: Key populations including people who use drugs, sex workers and transgender women become prisoners at alarming rates in the United States. Legislators, corrections officials and public health administrators responded positively to arguments at the intersection of criminal justice reform and HIV. Public health arguments can be used to promote criminal justice reform if specific policies are linked with documentation of specific harms. Fiscal arguments can promote alternatives to incarceration where treatment costs for key populations must be borne by local jails with few resources.

Conclusions: Advocacy linking specific policies to adverse health outcomes can reduce HIV risk from incarceration among key populations.
Methods: The study design was cross-sectional. A community-based research approach was used. During December 2015, seven peer researchers and two members of the research team interviewed a convenience sample of 201 Sub-Saharan migrants using a standardized paper-pencil questionnaire. HIV-related stigma was measured by using 8 items of stigmatizing attitudes towards HIV and PLWH. Answers ranged from 1=“strongly disagree” to 4=“strongly agree”. HIV-testing behavior was measured by asking participants if they have ever been tested for HIV during their lifetime and during the past 12 months. Descriptive and inferential statistics were carried out.

Results: Mean age was 33.5 years (SD=9.8). Fifty-four percent were male (n=108). The mean duration of living in Switzerland was 8.8 years (SD=8.4). Twenty-three percent (n=48) had Swiss Nationality. Forty-one percent (n=82) were singles. Twenty-three percent (n=47) have been tested for HIV during the past 12 months. Thirty percent (n=61) never had an HIV-Test during their lifetime. The HIV-related stigma was moderate (M=2.2, SD=0.8). On the other hand, 48% (n=96) considered HIV as a punishment for bad behavior and 51% (n=103) believed that people with HIV are promiscuous. About 66% (n=133) would be ashamed if they were infected with HIV and 49% (n=98) if someone in their family would have HIV. The HIV-related stigma was negatively associated with HIV-testing behavior (r=-0.20, p<.01). Prevention providers should engage in providing more information about HIV to reduce the HIV-related stigma and enable Sub-Saharan migrants to get tested without the fear of discrimination.

Conclusions: The participants’ HIV-testing behavior was low. Despite the HIV-related stigma was only moderate, it decreases the willingness to get tested for HIV. Prevention providers should engage in providing more information about HIV to reduce the HIV-related stigma and enable Sub-Saharan migrants to get tested without the fear of discrimination.

Background: In Australia, culturally and linguistically diverse (CALD) migrants are disproportionately affected by HIV. It is well known that living with HIV can be associated with stigma and discrimination, but less is known about the experience of CALD populations within countries like Australia, and there is little data on how HIV-related stigma and discrimination are experienced alongside other characteristics such as gender, ethnicity, and sexual orientation in these populations. Our study describes experiences of CALD communities of HIV stigma and discrimination living in South Australia and the impact of these experiences on health and wellbeing.

Methods: The study employed a qualitative approach, using in-depth interviews and focus groups. Fourteen CALD community leaders who were recruited through community networks participated in in-depth interviews about HIV stigma and discrimination and the wellbeing of their community. Eight staff members of a key organisation working with people with HIV from CALD backgrounds participated in 2 focus groups about working with CALD communities affected by HIV. Seven people with CALD backgrounds living with HIV were recruited through the organisation and interviewed about their experiences of living with HIV in their new country. Data were analysed thematically.

Results: HIV stigma and discrimination was seen to be experienced particularly acutely by CALD communities with negative impacts on individuals living with HIV, their families and also surrounding communities within collectivist traditions. Negative impacts included: loss of social support, stress, marginalisation and isolation, as well as potential delays to testing and access to treatment. These had implications for both mental and physical health. Gender, sexual orientation and visa status were important intersections of discrimination.

Conclusions: The higher than average rates of HIV in CALD populations and associated stigma are emerging public health issues in Australia. These findings reinforce the importance of implementing programs to address stigma and discrimination including the value of ‘positive speakers’ from within CALD communities and an understanding of intersecting factors. Likewise providing high quality, and culturally responsive services that build social capital and social support and work in conjunction with the different communities, is vital in addressing HIV in these communities.

Background: Provision of integrated Sexual Reproductive Health services including cervical cancer screening, Family planning and HIV for persons in Humanitarian crisis is a critical component of any humanitarian response. The implementation of the Minimum Initial Services Package (MISP) has been promoted and supported for quality SRHR services for persons in Humanitarian crisis. Despite the mutual dependence of HIV and other reproductive Health packages, refugees were reluctant to access some of the services. As part of the implementation of MISP through the SPRINT initiative, RHU implemented a project to provide MISP in refugee settlements in Uganda.

Description: The project supported the provision of MISP and other SRHR packages of services provided by RHU including Family planning and cervical cancer screening to refugees in five settlements in Uganda. Posters were created and distributed for community based integrated outreaches were conducted 5 refugee settlements in 3 months projects from March 2013 to October 2015. The program raised awareness and ownership of SRHR services through sensitization activities at community level and facility levels; increased uptake of SRHR services and facilitated bi-directional linkages and referral systems and monitored the quality of integrated SRHR services provision using specific defined indicators. There was over 80% of female clients coming for services primarily and first because of cervical cancer screening.

Lessons learned: SRHR services were provided to 53,162 refugee populations including 36,501 Women in reproductive age. While mobilization for services was always mentioned all range of services available and mobilizers mentioned HIV followed by family planning, 83% of Women in reproductive age reported that the primary reason for coming to the outreach was to access cervical cancer screening. This increased uptake of other services through the sensitization session and individual counseling during services provision. The provision of integrated SRHR services with cervical cancer screening increased uptake of other SRHR services.

Conclusions/Next steps: The concept of SRHR/HIV integration can be adopted by implementing partners in crisis settings. SRHR integration creates opportunities to access WRA and provide them with information and many choose to take additional SRH services. Cervical cancer screening is a critical component of SRHR/HIV which should be made available to persons in Humanitarian situations.

Background: Female sex workers, due to their nature of work, often move from one place to another. Most of their mobility pattern is due to discrimination at native places, lack of availability of customers, fear of disclosure of their identity. Despite many HIV prevention programs and social inclusion policies, their social status remains low. This study put efforts to understand how they utilize social and health services during their mobility.

Methods: The data were used for the study was collected during April to August 2014 to fulfil the doctoral study. Mixed method approach has been used to collect primary data. Quantitative data has been collected from 156 female sex workers and qualitative data from female sex workers (19) and key stakeholders (10). Structured data collected from 156 FSWs used in this paper. Data was collected on migration mobility pattern, and violence and utilization of services. Univariate and bivariate and multivariate analysis has been used.

Results: Nearly Almost 80% of the FSWs were mobile in nature and migrated to various locations for practicing sex work. Nearly 30% expressed that they were “not at all confident” in utilising health service during migration. The reasons cited are; fear of disclosure of identity (47%), discrimination (21%), hesitate to contact provider (85%) and expensive to consult (23%) provider. During migration 77% FSWs reported that they skipped skipping of any one service. Migratory status and duration were significantly associated with utilization of services among FSWs.

Conclusions: Despite availability of government health facilities at free of cost, many of the female sex workers are not approaching those, because of lack of confidence, discrimination and disclosure of their identity which force them to depend on self medication or home remedies. A comprehensive approach should be embedded in to the ongoing HIV prevention programs to include social, financial and health security towards female sex workers population.
Results: In 2008 Save the Children initiated a program to provide assistance to People Living with HIV (PLHIV) across borders. The program was implemented in the Save the Children Nimule hospital ART clinic in South Sudan, near the border with Uganda. The clinic serves PLHIV within South Sudan and mobile populations from neighbouring districts in Uganda and Kenya, including long distance truck drivers, business men, and pastoralists.

Description: From 2009 to 2011, the program enrolled 776 (Male 365, Female 411) patients and 81 (42 Males, and 39 Females) of these were from Kenya and Uganda, and the remaining 695 were from South Sudan. There was significant difference in the defaulter rates between South Sudanese and foreigners, with South Sudanese patients having a defaulter rate of 2.3% (16 defaulters over 695 patients), while that of foreigners (non-South Sudanese) was 58% (47 defaulters over 81 patients).

Lessons learned: Based on this challenging experience, a number of measures were introduced in the program in 2012, to facilitate a more effective follow up patients across the borders:

- Conducted exchange visits with ART centres in Uganda
- Set up appointment calendar to track appointment dates and follow-ups.
- Formed a network of treatment supporters composed PLHIV from villages in Northern Uganda and South Sudan
- Distributed bicycles to facilitate the work of treatment
- Provided monthly incentives to support the treatment supporters.

Conclusions/Next steps: As a result of these measures, while the defaulter rate for South Sudanese patients remained stable that of trans-border patients reduced to 1.8% (16 defaulters over 176 patients). Communication and exchange of contacts for clients between cross-border ART clinics has made it easy to ensure ART treatment adherence amongst cross-border mobile populations, whereas the establishment and involvement of treatment supporters from across the border has also facilitated adherence to ART treatment through provision of treatment supports and ensure that clients that are lost to follow up are followed up and brought back to care as well as get feedback from clients who access ARTs on the other ART clinics across the border. This model could be replicated with success in similar situations.

THPED320
FOLLOW-UP OF HIV TRANS-BORDER PATIENTS: THE CASE OF ‘SAVE THE CHILDREN’ IN SOUTH SUDAN

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Background: As a result of these measures, while the defaulter rate for South Sudanese patients remained stable that of trans-border patients reduced to 1.8% (16 defaulters over 176 patients). Contact and exchange of contacts for clients between cross-border ART ART clinics has made it easy to ensure ART treatment adherence amongst cross-border mobile populations, whereas the establishment and involvement of treatment supporters from across the borders has also facilitated adherence to ART treatment through provision of treatment supports and ensure that clients that are lost to follow up are followed up and brought back to care as well as get feedback from clients who access ARTs on the other ART clinics across the border. This model could be replicated with success in similar situations.

THPED321
THEY KNOW THEY HAVE THE RIGHTS TO SPEAK OUT: BREAKING THE SILENCE AND BUILDING RESILIENCE THROUGH COMPREHENSIVE SEXUALITY EDUCATION WITH LEARNERS WITH DISABILITIES

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Background: Young people with disabilities in South Africa are at increased risk of exposure to HIV as they lack access the sexuality education and information, health services and are at increased risk of sexual exploitation. This particular applies to girls with disabilities and those with intellectual disabilities. For boys with intellectual disabilities behavior such as masturbation in public is also reported as a challenge. Sexuality education has been amalgamated into the life orientation curriculum. Evidence shows that these learners are often excluded from sexuality and HIV education, and educators feel not equipped to provide sexuality education in accessible formats.

Methods: This paper presents the qualitative part of a formative evaluation of a curriculum innovation for educators of learners with disabilities in KwaZulu-Natal. It presents the experience of teachers with the implementation of the innovation. 100 teachers were trained during a three-day workshop and provided with the tools to implement comprehensive sexuality education in their schools. After a twelve month implementing period in-depth interviews were conducted with teachers of learners with intellectual disabilities in eight schools. Data was transcribed and analyzed using conventional content analysis and NVIVO version 10.

Results: Implementing teachers experienced the training and tools as enabling to provide sexuality education in accessible formats and tackle difficult topics such as sexual orientation or masturbation. They reported improved awareness and assertiveness within their learners, who were able to break the silence and understand their sexual and reproductive health and rights. They felt enabled to tackle a number of myth and inappropriate behaviors (masturbation in public). Teachers identified the need to train a whole school, adjust to widely differentiating developmental stages of learners and separate girls and boys when addressing gender specific topics.

Conclusions: This project attempts to provide sexuality education to more severely disabled learners. It shows promise to improve teachers skills and confidence. Through its application within the South African mainstream Live Orientation curriculum it also lends itself for integration within inclusive settings. Further testing of this intervention is needed to identify how its tools can be used to enable access to comprehensive sexuality education for all learners.

THPED322
HEALTH AND WELLBEING OF HIV POSITIVE AND NEGATIVE OLDER PEOPLE IN UGANDA

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Background: The population of older people including those living with HIV is increasing in Uganda. As people age, their disease burden tends to increase. It remains unclear how both ageing and HIV affect the health and wellbeing of older people in Uganda. We compared the health and wellbeing of HIV-positive and negative older people.

Methods: We analyzed survey data from the longitudinal WHO Study on global Ageing and adult health (SAGE)-Wellbeing of Older People Study (WOPS) in Uganda. This study was implemented in 2009-2010 (wave 1) and between 2012-2013 (wave 2), among people aged 50+ both HIV-positive and HIV-negative. Data on quality of life was captured using the World Health Organization Quality of Life (WHOQOL) questionnaire, and disability using the WHO Disability Assessment Schedule version 2. Hand grip strength was measured using a dynamometer. WHOQOL and disability scores were generated for each study participant based on standard methods. Mean hand grip strength was based on average of best result in both hands.

Results: A total of 510 study participants were included in SAGE-WOPS Wave 1, with a mean age of 65.8 years for men and 64.5 years for women. Almost 40% were HIV-positive. A total of 371 (72.7%) participants surveyed in wave 1 were followed up in wave 2. Of those that were lost to follow-up, 63 (12.4%) were known to have died, while the rest could not be traced.

All the HIV positive older people said they were accessing care. More than 50% of the HIV negative older people had taken more than one year without visiting health care centers. At each wave, HIV-positive older people had better WHOQOL and WHOQOL scores as compared to their HIV negative counterparts. In addition, HIV-positive older people had higher mean hand grip strength compared to their HIV-negative counterparts.

Conclusions: These findings may not reflect better health in HIV-positive older people compared to their HIV negative counterparts, but may reflect better access to health care for HIV positive older people in. Better access to care in turn leads to better quality of life.
that they often experienced depression, despair and anxiety; only 32% indicated that they were satisfied with their life. The ethnography revealed that children experienced multiple stressors namely food insecurity, lack of school fees, stigma, depression and poor social support networks but showed considerable resilience as they adopted various coping strategies.

Conclusions: Quality of life in child-headed households is poor and characterised by multiple deprivation. These vulnerabilities are not adequately addressed by existing social protection mechanisms, thus further exposing orphans to HIV. However, these orphans showed considerable resourcefulness and resilience as active agents and not passive victims. Therefore, interventions to support child-headed households should look beyond their vulnerabilities, to enhance protective factors and agency of orphans.

THPED325
CAPACITY NEEDS ASSESSMENT OF ADOLESCENT KEY POPULATIONS IN ASIA: A THREE-COUNTRY REPORT (CHINA, PHILIPPINES, THAILAND)

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Background: Adolescents are more vulnerable to HIV than adults, with one in six new infections in 2013 occurred among 15–19 years olds according to UNAIDS. This is due to low level of awareness, exposure to sexual violence, and age-related barriers in accessing HIV testing and treatment. In contrast, HIV response to adolescents remains weak and inadequate. There has been little explicit focus on the particular needs of adolescents within key population groups.

Methods: With support from UNICEF EAPRO, this report aims to surface the issues of adolescent key populations including adolescents living with HIV to support better information towards programming in three countries: China, Philippines, and Thailand. A total of 6 national consultations as well as key informant interviews were organized. Interviews and consultations employed semi-structured, open-ended questionnaires.

Results: Adolescent key populations face stigma and discrimination because of misconceptions about HIV and being part of key population groups. In Thailand, for example, adolescents who are assumed to be living with HIV are excluded in schools. In China, adolescent gay boys are isolated from social circles. While some adolescents are willing to access HIV testing and/or treatment, the lack of support from families and a supportive legal environment hinder them from doing so. Further, health service provision in hospital facilities only admits those who are above the age of 18.

Conclusions: This report recommends adolescents to be involved in the planning, programming, implementation, monitoring, and evaluation processes. This can be achieved by supporting capacity-building leadership courses conducted by youth-led organizations, such as Youth LEAD’s NewGeneration Leadership Training Course, to enable adolescents to participate in these different processes. Community-based organization (CBO)-led led initiatives that provide outreach to adolescent key populations should be scaled up. Building a supportive environment around families and custodians is also recommended to guarantee and support adolescents’ access to HIV services.
Results: The results of the study indicated low, albeit gradual increase in coverage and reference to the affected populations. However, as sources for media reports about HIV/AIDS, a disease that most affects them, their voices were invisible. For example, despite the high coverage of married people as risk group in phase four (n=76), only n=17 (14.7%) were considered as sources compared to 59% and 33.5% of HIV/AIDS experts and government sources.

Conclusions: What the media covers, and what/who the media gets information from shapes the content of the message that is eventually produced. Such messages should consider feedback from both the experts and people affected by HIV/AIDS given that their perspectives lend a humane experience and help to create information, or policies that are relevant. Agreement remains that the media does set both public and policy agenda therefor, in the long run, omitting the voice of affected people during coverage could undermine effective policy development and HIV/AIDS prevention efforts.

THPED327
DETERMINANTS OF EARLY INFANT DIAGNOSIS AMONG HIV-EXPOSED INFANTS IN BOTSWANA: ANALYSIS OF BOTSWANA AIDS IMPACT SURVEY IN SECONDARY DATA (2013)
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Background: In 2013, it was estimated that 44.4% of HIV-exposed infants were tested for HIV by 8 weeks of age in Botswana (BAIS IV, 2013). The purpose of this paper was to investigate demographic and structural factors associated with Early Infant Diagnosis (EID) among HIV-exposed infants in Botswana.

Methods: BAIS IV was a national two stage sample survey conducted in 2013. Smart phone tablets were used to collect data. Data was analyzed using SPSS 22.0. The association between EID and demographic and structural factors was determined using bivariate analysis. To test for independent association logistic regression was applied.

Results: Age, employment status and level of education had a significant association with EID (p<0.000). Younger women (15 and 24 years) were most likely to test their infants compared to older women (40-49 years), while more than half (54.1%) of women with primary education or less compared to 36.9% among those with tertiary education had tested their infants. Women with primary education or less, were 3 times more likely to test their infants compared to those with tertiary education (OR= 3.017, 95% p=0.000) having controlled for age and employment status. Similarly, 47.7% of employed women compared to 40.0% among unemployed women took their infants for HIV test at ages 6 to 8 weeks. Women who were on treatment prior/during last pregnancy were 1.2 times more likely to test their HIV-exposed infants compared to those who were not on treatment. At the same time a higher proportion of women enrolled on PMTCT compared to those not enrolled, tested their infants (90.1% vs. 70.4%).

Conclusions: Demographic and structural factors being education, age and employment status had a significant association with EID. Contrary to expectation data showed that women with higher levels of education were less likely to test their infants compared to those with lower levels of education. More education needed among women with higher levels of education and are also who are employed. Women enrolled on PMTCT more likely to test their infants hence the need to educate and improve access to HIV/AIDS services. Linkages between PMTCT program and postnatal will be strengthened because of these results.

THPED328
YOUTH NEEDS ASSESSMENT ON SEXUAL AND REPRODUCTIVE HEALTH SERVICES IN LOW-INCOME COMMUNITIES IN CAPE TOWN, SOUTH AFRICA
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Background: A disproportionately high number of new HIV infections in South Africa are among individuals aged 15 to 35. This highlights the importance of increasing access to, and coordination of, health care services by youth. Research was conducted in Cape Town in order to ascertain the needs of the youth as well as their barriers and preferences related to health services.

Methods: Surveys were conducted in the Klipfontein health sub-district with youth in six schools (n = 268) whose ages ranged from 13 - 20 years (M = 15.81, SD = 1.37) where 33% were male and 67% were female. The data analysis consisted of descriptive statistics and frequencies which were analysed using SPSS (Statistical Package for the Social Sciences). The identified needs, barriers and preferences were ranked according to level of severity or saliency.

Results: Learners felt that they needed better access to health information and education (59%), specifically information on teenage pregnancy (52%), STIs (45%) and HIV (42%). They preferred to receive health information from teachers (66%), an organisation at their school (57.1%) and from their parents/family (53%). Participants also highlighted the need for access to contraception (49%) and HIV Counselling and Testing (49%). When accessing health services, learners said that the most important factors to them were privacy, friendly staff, confidentiality, convenient locations and convenient hours. The greatest barriers to accessing health services were negative attitudes of the staff, embarrassment about people knowing they are going to a clinic, the need to make an appointment, concerns about confidentiality, staff who do not show concern or respect, and a lack of knowledge about services available.

Conclusions: The survey results demonstrate a need for youth-friendly sexual and reproductive health services to be made accessible to learners in Cape Town. Based on youth recommendations, provision of school-based services may address learner needs and reduce barriers to access.

THPED329
EXPLORING HIV NEEDS AND CHALLENGES FOR ADOLESCENT KEY POPULATIONS IN INDIA: A STEP TOWARDS ADDRESSING INEQUALITIES IN HIV RESEARCH AND PROGRAMMING
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Background: Globally, adolescent key populations (AKPs) are disproportionately affected by HIV. The post-2015 Sustainable Development Goals to end AIDS epidemic by 2030 can be achieved if solutions are developed for AKPs, responding to their HIV/SHR needs. India is the third largest contributor to HIV in the world, epidemic being concentrated largely in key populations. Due to inequity in HIV policy and programming, most interventions have targeted adults, and not addressed the risks faced by AKPs. Participatory structured consultations were held with AKPs, stakeholders and policy makers to understand needs, challenges and possible solutions.

Methods: Exploratory study was conducted using qualitative methods at Delhi in 2015. Methods included: mapping, FGDs (with 30 AKPs from 8 states) and KIIs (10 stakeholders). These discussions were digitally recorded, transcribed, translated, and then analysed using content analysis.

Results: Study findings indicate that AKPs indulge in high-risk behaviour, however only a few had knowledge on HIV/SHR issues. Findings reveal that structural factors including discriminatory policies/laws make AKPs vulnerable to HIV. AKPs report being subjected to self (guilt) and societal stigma (name calling, non-acceptance by family) and violence (bullying, coercive sex) that exacerbate HIV risks. Due to stigma and criminalizing laws, MSMs and TGs are fearful of disclosing their identities and hence do not seek services. AKPs also reported experiencing negative and judgemental attitude from healthcare providers (HCPs) on issues of sexuality. The need for training and skill building to deal responsibly with AKPs was felt by HCPs. For young FSWs, violence from clients in the form of coercive and group sex, and low condom use was the real challenge. The most AKPs identified peer-led outreach services to be effective and acceptable means of working with them.

Conclusions: AKPs have largely been excluded from national HIV response. To improve their equity in HIV access and prevention, current research provides evidence to respond to AKPs needs and challenges in national programming. These include: empowering and building capacities of AKPs on HIV/SHR issues; training HCPs in developing non-judgmental attitudes and skills towards AKPs; addressing stigma, discrimination and violence; and piloting peer-led approaches as a strategy to work with AKPs in India.

THPED330
OPTIMISM ABOUT THE FUTURE PREDICTS BIOLOGICAL AND PSYCHOSOCIAL FUNCTIONS AMONG CHILDREN OF HIV-INFECTED PARENTS
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Background: HIV/AIDS is a strongly-stigmatized disease, which has profound impact not only on the infected individuals, but also on their families. Children of the HIV-infected parents are particularly vulnerable to various negative outcomes, such as depression, problem behaviors and health problems. Research begins to identify effects of children’s positive characteristics on their health outcomes. Optimism about the future, defined as the extent to which people be optimistic in their beliefs...
about the future, is suggested to be beneficial for HIV-affected children's psychosocial function, but such benefit has not been examined using their health-relevant biomarkers. One of the key biomarkers related to early-life adversity is cortisol, which is the body's primary stress hormone, produced by the hypothalamic-pituitary-adrenal axis. This investigation examines whether optimism about the future could benefit both HIV-affected children's biological (diurnal cortisol rhythm) and psychosocial functions (internalizing and externalizing problems).

Methods: A sample of 645 children (8-15 years old; 48.1% girls) of HIV-infected parents was recruited from a rural county in central China. Participants provided saliva samples 4 times a day for 3 consecutive days: immediately upon waking, 30 minutes after waking, one hour before dinnertime, and bedtime to assess their diurnal cortisol patterns. Optimism about the future, depression, loneliness and problem behavior were assessed via self-report.

Results: Children who were more optimistic in their beliefs about the future showed higher cortisol levels at awakening, steeper cortisol slopes, lower total cortisol output (area under the curve with respect to ground, AUC), lower loneliness and less problem behavior. These associations remained significant after we controlled for demographic factors and stressful life events. Optimism about the future was not associated with cortisol awakening response (CAR), total cortisol output (area under the curve with respect to ground, AUC), or depression.

Conclusions: These results suggest that optimism about the future is linked to favorable psychosocial outcomes and health-related biological functions, through which health outcomes might be influenced. Intervention efforts are needed to improve optimism about the future among children affected by HIV so as to improve their mental and physical health.

THPED331

USING MEDIA TO STRENGTHEN THE IMPLEMENTATION OF A PROGRAMME WORKING WITH YOUNG WOMEN

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Background: The Soul City focuses on intensifying multi-media SBCC interventions through its programmes. The Rise Young Women’s Club is a community based Behaviour Change Communication programme that aims to significantly reduce new HIV infections among young women of 15 to 24 years. The programme is aimed at building social cohesion amongst young women by mobilising them to participate in taking responsible action to shape their lives and the communities they live in. It is currently implemented in 7 of the 9 provinces in South Africa. Programme started in 2014.

Description: The Soul City institute developed and implemented media interventions informed by formative research conducted in 2014, to strengthen the implementation of this programme. The multi-media materials developed for this programme are (print, broadcast television, and social media).

Rise Talk Show is an inter-generational multi-host lifestyle show aimed at young women between the ages of 14-25 years, to create an open environment whereby they can be encouraged to spark bold debate, conversations and discussion on hard hitting gender issues without being apologetic. It also aims to encourage open and honest dialogue.

Rise Magazine is a theme-based publication that contains a mix of content, activities and ideas for collective community action by the clubs. The magazine is a resource for clubs to undertake projects on topic/features linked to the curriculum developed for the programme.

The Rise Monitoring App is a central data repository that allows for efficient monitoring and reporting of the club activities and projects.

Rise Young Women’s Movement Mxit Reach App is a free interactive and fun platform for all young women who want to share their issue, concerns, advice, stories and everything that affects them.

Lessons learned: Young women need easy access to information, space to interact - connect with friends and discuss issues, space to get advice and links to services and opportunities.

Conclusions/Next steps: Soul City conducted research on the talk show and on the magazine looking at how young women communicate. The findings were that drama, story, talk shows for young women by young women, and reality shows that show what other youth go through are mostly preferred.

THPED333

THE MISSING DISCOURSE OF SEXUAL PLEASURE IN HEALTH PROGRAMMES FOR YOUNG PEOPLE LIVING WITH HIV

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Background: The push to integrate HIV and sexual and reproductive health (SRH) programmes for young people emphasizes the delivery of information and commodities to prevent pregnancy and treat illness. Programs do not generally acknowledge adolescent circumstances, including hormonal changes, and the onset of romantic and sexual desires that drive sexual decision-making; as such, they fail to meet the needs of adolescents, particularly those living with HIV. Findings from a qualitative study among young people living with HIV (YPHIV) suggest opportunities to leverage notions of sexual pleasure as a source of resilience.

Methods: YPHIV were trained (n=8) to undertake qualitative interviews with peers (aged 16-25) recruited from support groups (Zimbabwe, n=24) and clinics (South Africa, n=24). Discussions focused on experiences accessing SRH information and services with and without a sex partner. English language transcripts were thematically analysed using participatory methods.

Results: Data showed that young people defined sex as ‘bad and dangerous’; other negative themes emerged. First, young people framed HIV-acquisition as linked to having “misbehaved”. Second, engaging in sexual activity - defined as intercourse - was perceived as ‘perilous’ and ‘shameful’ due to the risk of transmission. Forms of safer sex and other sexual activities (oral sex, kissing, touching) were not mentioned as alternatives. These sentiments were strongly held by heterosexual men and young people alike. Stigma associated with having sex - both internalised and externalised - framed conversations about initiating sexual activity. This was especially true for YPLWH who had acquired HIV-vertically - as previously “blameless” virgins risked becoming “immoral” through initiation of sex. A final theme was the
emphasis on access to commodities (contraceptives, condoms) as being the route to SRH, at the expense of non-judgemental discussions about romantic and sexual relationships. 

Conclusions: Sex and SRH was framed in terms of risk and moral judgement, protection from disease and pregnancy, and overlapping HIV-related stigma and sexual taboos. Sexual pleasure was absent from discussions. Reframing SRH to leverage pleasure as a motivator to promote healthy romantic and sexual relationships may more widely support sexual health. Such re-framing could not only utilize health workers and facilities, but also youth-friendly media e.g., websites, mobile applications and pocket booklets.

THPED334
YOUNG WOMEN’S PERCEPTIONS OF TRANSACTIONAL SEX AND SEXUAL AGENCY IN THE CONTEXT OF RURAL SOUTH AFRICA

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Background: Evidence shows that the HIV prevalence among young women in sub-Saharan Africa increases almost five-fold between ages 15 and 24, with almost a quarter of young women infected by their early-mid 20s. Transactional sex or material exchange for sex is a relationship dynamic that has been shown to have an association with HIV infection.

Methods: Using five focus group discussions and 19 in-depth interviews with young women enrolled in the HPTN 068 conditional cash transfer trial, this qualitative study explores young women’s perceptions of transactional sex within the structural and social context of rural South Africa. The analysis also considers the degree to which young women perceive themselves as active agents in such relationships and whether they recognise a link between transactional sex and HIV risk.

Results: The findings show that young women believe that securing their own financial resources will ultimately improve their bargaining position in their sexual relationships, and open doors to a more financially independent future. The findings also suggest that there appears to be a more nuanced relationship between sex, love and gifts where money has symbolic meaning, and where money transfers, as gifts, indicate to partners, a young woman’s value and commitment from the man. This illustrates the complexity of transactional sex, and that the way it is positioned in the HIV literature ignores that “exchanges” serve as fulcrums around which romantic relationships are organised. Finally, young women express agency in their choice of partner, but their agency weakens once they are in a relationship characterised by exchange, which may undermine their ability to translate perceived agency into HIV risk reduction efforts.

Conclusions: This research underscores the need to recognise that transactional sex is embedded in adolescent romantic relationships, but certain aspects of it make young women vulnerable to HIV. This is especially in situations of restricted choice and circumscribed employment opportunities. HIV prevention educational programmes need to be coupled with income generation trainings, in order to leverage youth resilience and protective skills within the confines of difficult economic and social circumstances. This would provide young women with the knowledge and means to successfully navigate safer sexual relationships.

THPED335
A TAXONOMY OF BEHAVIORAL ADJUSTMENTS RELATED TO PRE-EXPOSURE PROPHYLAXIS (PrEP) AMONG ADOLESCENTS IN SOUTH AFRICA

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Background: Risk compensation refers to adjustments in behavior based on changes in perceived levels of risk. There has been concern about the potential for risk compensation due to the clinically protective effects found in efficacy trials of oral antiretroviral (ARV) pre-exposure prophylaxis (PrEP). This concern is particularly expressed regarding young people in HIV endemic settings, where PrEP scale-up is especially warranted. We conducted a mixed methods study to explore and identify types of PrEP-related behavioral adjustments that may occur among adolescents in the high-risk HIV context of Cape Town, South Africa.

Methods: HIV-positive and HIV-negative adolescent participants were recruited using convenience sampling in community and clinic settings; service providers were recruited using snowball sampling. Adolescents completed a survey about perceptions of PrEP efficacy, and took part in focus groups and individual interviews. Similarly, health service providers completed a survey about perceptions of PrEP efficacy and completed individual interviews. Focus groups and interviews were guided by a semi-structured protocol exploring perceptions about predicted behavioral adjustments among adolescents using PrEP. Quantitative data were analyzed using SPSS and qualitative data were analyzed thematically using NVivo. We obtained ethical approvals from University of Cape Town and Brown University.

Results: Adolescent participants included 24 Black Africans who completed grade 8 or higher, and 17 service providers working in adolescent clinics. Ninety percent of adolescents endorsed likelihood of PrEP use, and 100% of clinicians endorsed prescribing PrEP for sexually active adolescents in the future. Predicted behavioral adjustments among adolescents due to PrEP included greater disclosure of HIV status to partners; greater likelihood for condoms; sexual activity among exclusively sexually active adolescents in a committed relationship; and increased uptake of HIV testing. We found little evidence suggesting that PrEP access would contribute to earlier sexual debut or greater numbers of sexual partners among adolescents.

Conclusions: Widespread ARV availability, adult PrEP implementation, and future access to PrEP may lead to a range of behavioral adjustments among adolescents in South Africa. Predicted PrEP-related behavioral adjustment among adolescents indicate a need for more research on behavioral counseling that is tailored to the developmental and age-specific needs of this group.

THPED336
BEYOND BEHAVIOR: THE ROLE OF SEXUAL ORIENTATION, GENDER IDENTITY AND ATTRACTION IN HIV INTERVENTIONS FOR YOUNG BLACK MSM AND TRANSGENDER WOMEN

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Background: HIV prevention efforts have traditionally focused on individual behaviors that place young black men who have sex with men and transgender women (YBMSM/TW) at risk for HIV, without sufficient attention to the role of sexual orientation and gender identity.

Methods: healthMpowerment (HMP) is a mobile-phone-optimized, Internet-based intervention for YBMSM/TW that provides information, resources, tailored feedback, and social networking platforms to offer and receive social support from peers. Baseline data from 474 YBMSM/TW enrolled in randomized controlled trial of HMP was analyzed to explore identity, attraction and behaviors.

Results: The mean age was 24.3 years, 39.5% were HIV-positive, 57.0% reported unprotected anal or vaginal intercourse in the prior three months. Most identified as gay 312 (65.8%), 87 (18.4%) as bisexual, 8 (1.7%) as straight and 67 (14.1%) as other. For many participants, there was lack of congruence between chosen identity, attraction and sexual behaviors in the past three months. Of those who identify as bisexual - only 18.4% reported moderate to high attraction to both males and females and engaged in anal or vaginal sex with both genders in the past 3 months. While most of the sample identified as male (95.6%), 7 (1.5%) participants identified as female, 10 (2.1%) as transitioning and 4 (0.8%) as undecided. One-thenth (n=48) being reported is gendered some, most or all of the time; 62.5% reported associated stigmatization. While 66.9% were open with others about their chosen sexual orientation, 21.5% wished they were not that orientation and 7.2% reported wanting professional help to change sexual orientation.

Table 1: Relationship Between Preferred Identity and Attraction
<table>
<thead>
<tr>
<th>Attracted to</th>
<th>Attracted to</th>
<th>Attracted to</th>
<th>Not attracted to</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>men only</td>
<td>women only</td>
<td>both men</td>
<td>either gender</td>
<td>Gay</td>
</tr>
<tr>
<td>279 (89.4%)</td>
<td>0 (0%)</td>
<td>29 (9.3%)</td>
<td>4 (1.3%)</td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>26 (29.9%)</td>
<td>3 (3.4%)</td>
<td>57 (65.5%)</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Straight</td>
<td>2 (25%)</td>
<td>6 (75%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Queer/ Questioning/ Other</td>
<td>45 (67.1%)</td>
<td>4 (6.0%)</td>
<td>18 (26.9%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>
THPED337
IMPROVING ACCESS OF HIV PREVENTION AND SEXUAL HEALTH SERVICES TO ADOLESCENT AND YOUNG MSM IN KARACHI, PAKISTAN

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Background: Pakistan is officially an Islamic Republic, in practice Pakistani law is a mixture of both Anglo-Saxon colonial law as well as Islamic law, and both proscribe criminal penalties for homosexuality. Pakistan has an intense epidemic of HIV/AIDS where MSM form the biggest high risk group due to the intolerant social behavior. MSM live under great suppression and few programmatic interventions address this complex yet important sociocultural factor which causes extreme stigma and discrimination to Adolescent and Young MSM. This abstract summarized multiple factors faced by MSM in service delivery and program design in Karachi, Pakistan; making them vulnerable and most key affected population among other marginalized communities.

Description: Secondary Quantitative data was collected from service delivery reports of Volunteer Counseling and Testing-VCT of PMHS from May 25, 2012, till December 31, 2015. Ethical, verbal and written consent and other ethical considerations, as per PMHS’s Institutional Manual were followed. PMHS’s service delivery package for prevention of HIV/AIDS among MSM includes VCT, STIs' management, BCC and Condom & Lube distribution through peer led outreach interventions. Descriptive statistical analysis of the data was done on SPSS.

Lessons learned: A total of 4590 MSM agreed to opt for VCT service, 43.83% were from 15 to 24 years (youth group), and 16.71% were from 10 to 19 years (adolescent group), and they belong to very low income and educational background. In youth group 4.62% and in adolescent group 4.04% were found reactive on rapid test provided at PMHS. Analysis of sexual practice of both groups shows that 76% have multiple male partners and condom usage is also at very low i.e. 17%. Around 72% reported religion as a cause of guilt associated with MSM behavior and 65% are not aware of HIV/AIDS.

Conclusions/Next steps: HIV disproportionately affects adolescents and young adults compared with the overall population. There is urgent need for adolescent and youth friendly HIV prevention and Sexual Health Services in program design with emphasized rights driven movements by educating the youth through integrated approach that engaged, Government, Civil Society Organizations, Parents, social workers, teachers and health care providers to provide a professional but also community perspective. Data was coded thematically in multiple iterations by two researchers to produce key themes about intergenerational communication.

Results: Adults framed young people’s sexual activity in negative terms. Therefore discussions about sex were often aimed at instilling fear, focussed on risk and expected abstinence. Caregivers’ had contradictory feelings, fearing the risk sex posed but also denying their children’s sexual activity. Adults feared sensitive discussions, felt ill equipped for them and worried that discussions would encourage adolescents’ sexual activity. Many respondents were influenced by traditional norms about intergenerational communication. Notably the influence of adults’ experiences of and negotiations with personal risk in such a high risk and HIV prevalence context also emerged as a barrier.

Conclusions: The results highlight the need to equip caregiver’s with the means to confidently and capably have a conversation about sex and HIV in order to overcome barriers such as fear, denial and traditional norms and beliefs, and shift the negative framing of young people and sex. The study uniquely highlights the fact that in such high prevalence contexts adults are grappling with personal risks, behaviours and fears that are wrapped up with intergenerational discussions about sex. Where adults are negotiating their own complex sexual relationships, risk and in some cases HIV status they need particular support and skills to be able to have intergenerational communication about sex and HIV.

THPED339
AMBIVALENCE AND CONTRADICTIONS: QUALITATIVE STUDY OF HIV PREVENTIVE BEHAVIORS AND THE NEED FOR DUAL PROTECTION AMONG YOUNG MEN AND WOMEN IN RURAL KWAZULU-NATAL, SOUTH AFRICA

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Background: South African women under the age of 25 experience a pattern of sustained high HIV prevalence that has remained unchanged for many years in spite of significant program investment. UNAIDS designates young women a ‘key target population’ for resources and more effective interventions. To gain a better understanding of intervention needs, this qualitative study explored young men’s and women’s narratives of HIV prevention experiences.

Methods: We conducted a qualitative meta-analysis of data from two studies of young people’s prevention needs are complex and multifaceted, with unintended pregnancy (“falling pregnant”) was a primary concern for both young men and women. In casual partnerships, condom use was acceptable and therefore higher. Unintended pregnancy was especially feared with casual partners, who were not perceived as suitable life partners. However, dual method use to protect against HIV and pregnancy was lower, and almost non-existent in relationships of several months or more. A strong cultural value placed on fertility among young men and women contributed to ambivalence about consistent condom use in long-term relationships. Pervasive fears of contraception – particularly injectable hormonal methods – resulted in condom use being inconsistent and infrequent. Although condoms were equated simultaneously with a lack of trust. These ambivalent and contradictory perspectives led to inconsistent prevention practices, especially in condom use.

Conclusions: Young people’s prevention needs are complex and multifaceted, with frequently conflicting objectives. Addressing multiple contexts of prevention - with tailored sexual and reproductive health approaches - would better address comprehensive prevention needs in this high HIV prevalence setting among the key populations of adolescent and young adult men and women.

THPED338
A DIFFICULT CONVERSATION: ADULTS’ PERCEPTIONS OF THE BARRIERS TO TALKING ABOUT SEX AND HIV WITH ADOLESCENTS IN RURAL KWAZULU-NATAL, SOUTH AFRICA

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Background: Adolescent rates of HIV remain persistently high in South Africa. Adolescence is a period of potentially increased sexual risk, particularly for unwanted pregnancy and HIV. Parent-child communication about these issues can reduce risk but is often difficult for both parties. This paper aims to inform an intervention to encourage intergenerational communication about sex and HIV and also contribute to an in-depth understanding of the barriers from the adults’ perspective, often missing in the literature.

Methods: Semi-structured qualitative interviews elicited data about perceptions of intergenerational communication. Eighteen adult representatives from within rural and peri-urban communities in Valulndla, KwaZulu-Natal were purposively sampled to provide a caregiver’s perspective. The sample also included 19 key informants, social workers, teachers and health care providers to provide a professional but also community perspective. Data was coded thematically in multiple iterations by two researchers to produce key themes about intergenerational communication.

Conclusions: A high proportion of participants reported incongruent sexual orientation, attraction and behavior. More nuanced understanding of the complexities of sexual orientation, gender identity and behavior among at-risk and HIV-positive YBMSM/TW is needed if HIV interventions are to provide appropriate tailoring and content to address the roles gender and sexuality may play in risk behaviors for HIV transmission.
SAME-SEX-ATTRACTED, BISEXUAL AND QUEER PEOPLE, INCLUDING YOUNG PEOPLE

THPED340
BI BEHAVIOR, BI IDENTITY, OR BOTH? INTERPRETING DISPARITIES AMONG BISEXUAL BLACK MEN IN THE U.S. ACROSS THE HIV PREVENTION AND CARE CONTINUUM: RESULTS FROM THE POWER STUDY

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Background: Across the HIV prevention and care continuum in the U.S., bisexual men experience disparities. Although bisexual men have lower HIV prevalence compared with gay men, research has shown that they are less likely to have received HIV tests; more likely to be HIV-positive unaware; and less likely to achieve viral suppression when HIV-positive. However, little research has attempted to differentiate bisexual behavior and bisexual identity in examining these disparities, particularly among Black MSM, who experience the highest HIV incidence rates domestically.

Methods: We examined survey and serological data collected at Black Pride events in six U.S. cities between 2014–2015 (n=3426) from the Promoting Our Worth, Equality, and Resilience (POWER) study. Among Black men ≥18 years reporting past-year anal sex with other men (n=2824), we differentiated between gay-identified men who had sex with men only (gay MSM: 73.6%); bi-identified men reporting past-year sex with men and women (gay MSWM: 7.8%); bi-identified MSMO (8.3%); and bi-identified MSWW (8.3%). Using gay MSMM as the reference category, we conducted logistic regressions contrasting these groups by HIV testing history and serostatus; PrEP use (HIV-negative MSM); being HIV-positive unaware, and viral suppression (HIV-positive MSM). HIV-antibody testing was conducted onsite. Models adjusted for sociodemographics, city sampled, year, and past-year sexual partnerships.

Results: Compared with gay MSM, gay MSMM (<0.01), bi MSMO (<0.05), and bi MSWM (<0.05) were less likely to have ever received HIV testing. Bisexual MSM (<0.05) and bi MSWM (<0.01) were less likely to be HIV-positive. However, gay MSMM (<0.01), bi MSMO (<0.05), and bi MSWM (<0.01) were more likely to be HIV-positive unaware. Bi MSMW were less likely to report achieving viral suppression (<0.05). Gay MSWW were more likely to report taking PrEP (<0.01).

Conclusions: Our findings show that, across the HIV care continuum, significant disparities occur among MSM who identify and/or behave bisexualy, with bi-identified MSWM experiencing the worst outcomes. An urgent need remains for biobehavioral intervention development specific to bisexual Black men that encourages regular HIV testing, PrEP use, and care linkage/retention, perhaps building on the hopeful findings of PrEP utilization among gay-identified MSWM.

THPED341
“LA SOLUCIÓN ES LA TURCA”: HIV PREVENTION PROGRAM FOR LESBIAN AND BISEXUAL WOMEN

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Background: The inclusion of lesbian and bisexual women in health promotion agenda is scarce due to social, historical and cultural factors, especially in HIV prevention and research. However, the existing risks in their sexual practices have been scientifically recognized. The total figure of HIV+ women globally is unknown, even though there are nearly 7,000 in the United States.

Description: This paper presents the results of a program oriented to LB women from Cali, Colombia that aims to promote healthy sexual behaviors and the recognition of sexual and reproductive rights. It was built with a psychosocial framework that combined the Theory of gender and power (Wingood & DiClemente, 2000) and the Model for Social Change (Montero, 2003). It was a 6 session program in which 23 women, between 18 and 25 years of age (X= 21.7; DS=1.79), participated. The program evaluation was conducted using mixed methodologies that include quantitative and qualitative tools.

Lessons learned: Participants reported a strengthened self-identity, a sense of empowerment in their sexuality, and an expanded knowledge about their sexual and reproductive rights. However, corresponding with Latin-American and other international findings, the non-use of preventive methods and the lack of knowledge about HIV was reported. This gap could be the consequence of a health and education barrier in the LB community because agents such as family, teachers and health providers might not be trained to provide specialized information. Therefore, including the LB women in these education programs and raising awareness within this agent is mandatory. Moreover, interacting with other LB women and receiving accurate information about sexual health was highly valued by participants. Future programs must use strategies that promote empowerment, rights advocacy, access to community resources and social support networks.

Conclusions/Next steps: Programs oriented to LB women must address the way in which pleasure-seeking, risk perception, identity exploration, lack of knowledge, sexual abuse and drugs abuse create a particular vulnerability that sets this population at risk for HIV and other STDS. They should avoid exclusive biomedical perspectives that ignore the existence of social and structural factors that may increase this risk (Lindley & Walsemann, 2013; Logie, 2015).

THPED342
HIV KNOWLEDGE, ATTITUDES AND RISK PRACTICES & BEHAVIOR OF SEXUAL MINORITIES IN BOTSWANA

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Background: Much of the effort to prevent the spread of HIV and other types of infections targeted the heterosexual population. While the existence of sexual minorities in Southern Africa is a reality, most countries do not have the policy and legislative framework that would allow them to specifically address the needs of such groups as research on sexual minorities is often rare and piecemeal.

Methods: This paper utilises Botswana data derived from a 2013 SADC cross-sectional survey of sexual minorities in three countries, Zimbabwe, Botswana, and Zambia, aimed at exploring the sexual and HIV risk knowledge, attitudes, and practices of sexual minorities. Convenient sample of adults aged 18-65years across the country participated. Data are analysed in SPSS, using uni-variate and bi-variate techniques and descriptive statistics.

Results: A total of 189 Men who have sex with men (MSM) and 193 Women who have sex with women (WSW) young Batswana participated. Over two thirds of males in the sample (69.1%) classified themselves as gay while over a quarter (26.3%) self-classified as bi-sexual. Among females, about three quarters (71.7%) classified themselves as lesbian and over a quarter (26.7%) as bi-sexual. A high proportion (96%) of men had engaged in anal sex, with almost three quarters (73%) indicating that their first sexual partner was older than themselves. A majority (77.2%) of the females had penetrative vaginal sex mostly with females about their age. However, just over a third (35.8%) indicated that they had had penetrative vaginal sex with a man. Use of condoms in these sexual encounters varies but generally condoms are not always used.

Conclusions: Same sex relationships are a reality and encouraging governments to take responsibility for all its citizens, regardless of cultural norms and values, has to be the mission of all. The design of programmes to this end will assist in enhancing the acceptability of divergent groups in the pursuit of the general good.

THPED343
‘SEXING IN THE CITIES’: SEXUAL RISKS, PREVENTION KNOWLEDGE AND PRACTICES OF WOMEN WHO HAVE SEX WITH WOMEN IN SOUTH AFRICAN TOWNSHIPS

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Background: Although the ‘zero-risk’ myth has made women who have sex with women (WSW) invisible in the HIV and sexually transmitted infections (STIs) research, policy and programmatic intervention activities in South Africa, I explored sexual practices and risk behaviours to STIs among lesbian and bisexual women. With the 2012 HIV survey[1] in South Africa highlighting the HIV prevalence among women, being twice as high as that of men, all women are at risk, including WSW. [1] See http://www.avert.org/hiv-aids-south-africa.htm

Methods: This study, which was part of a doctoral research project with Utrecht University, in collaboration with the Triangle Project in Cape Town and the Forum for the Empowerment of Women in Johannesburg, was conducted in various townships of Cape Town and Johannesburg. Most participating women identified as lesbian (77%) and black. Data were collected via a mixed method approach of self-administered questionnaires (N=209), in-depth interviews (N=33) and focus group discussion (N=16) with women (18 years and older) who in the preceding year had had sex with women.
Results: Preliminary results show that 31.1% had more than 3 partners in the last 12 months, the majority of whom were concurrent. 36.8% stated they had sex during menstruation, although a significant number (58.4%) knew about protection for WSW during sex, only a small fraction (9.6%) used it. Although the majority had tested for HIV (73.2%), about half did not disclose the results of the HIV test, but 4.3% disclosed they were HIV positive. Consensual heterosexual sex was reported at 12.4% and forced sex was reported at 17.2%.

Conclusions: These study findings show that despite the image of invulnerability, HIV is a reality among WSW with a number of risk factors, including forced sex as well as consensual heterosexual sex, but also evidently homosexual sex at play. The findings from this study will provide recommendations for policy and programmatic intervention on HIV and sexual health for WSW in South Africa.

THPED344
USE OF PRE-EXPOSURE PROPHYLAXIS AND ASSOCIATED SEXUAL AND SUBSTANCE USE BEHAVIORS AMONG A SAMPLE OF MSM IN THE UNITED STATES
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Background: Increasing availability and use of PrEP among MSM has spurred questions about the impact of PrEP on sexual and substance use behavior between MSM PrEP users and non-users.
Methods: Survey data were collected in 2016 via advertisement on a social networking app for MSM. Participants completed a 15 minute survey exploring PrEP use, global measures of sexual behavior, and sexual and substance use behaviors during the most recent episode with a main and/or casual sexual partner.
Results: 3,758 participants completed the survey. 17.1% (n=624) HIV-negative men reported currently utilizing PrEP, and 37.9% of these men reported missing between 1-3 doses of PrEP in the past month. There were significant differences in the age of men using PrEP (M=37.45, SD=10.12) compared to those who do not (M=34.73, SD=12.20), t (1755) = -3.58, p < .001. Significant differences were reported in PrEP use across racial/ethnic groups (χ² (4, n=1,727) = 18.15, p = .001, with Black, Asian, and White men more likely to use PrEP than Latinos. PrEP users reported almost twice as many sexual partners in the past 3 months (M=9.69, SD=12.58) versus non-users (M=4.46, SD=6.89), p < .001. PrEP users reported more casual sexual partners with whom they had condomless anal intercourse (CIAI) (M=5.57, SD=9.61) compared to non-users (M=2.19, SD=5.71), p < .001. MSM using PrEP were more likely to engage in condomless receptive anal intercourse (CRAI) compared with men who were not on PrEP χ² (1, n = 1,399) = 29.49, p < .001 as well as engage in condomless insertive anal intercourse (CAI) χ² (1, n = 1,398) = 11.44, p < .001. No significant differences were found in substance use behavior during the most recent sexual episodes with main or casual partners.
Conclusions: Results from this study indicate among our sample, use of PrEP was associated with greater levels of CIAI and CRAI as well as having more casual sexual partners. However, participants also had generally high rates of self-reported adherence to PrEP, which may reduce the risk of HIV transmission.
Hunger, alcohol use and lack of power in relationships explain women’s experience of recent intimate partner violence in urban informal settlements, in Durban, South Africa

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Background: Women’s experiences of intimate partner violence (IPV) is a key risk factor for HIV acquisition. Urban informal settlements are growing rapidly and have particularly high HIV incidence. We sought to understand the prevalence of physical IPV and sexual IPV amongst young women in informal settlements and factors associated with experiencing any physical and/or sexual IPV in the past 12m.

Methods: We drew on cross-sectional data from 320 young women aged 18 to 29m in informal settlements in Durban, South Africa who comprised the control arm of a cluster randomised RCT. Questionnaires collected data on experiences of past year physical IPV and past year sexual IPV using WHO validated scales, gender attitudes and socio-demographics. We built Guassian random effects regression models for any physical and/or sexual IPV in the past year, controlling for age, education and clustering.

Results: Women were young (mean 24.4 y) CI23.5-25.3; only 34.7% (CI27.8-42.4) had completed schooling. Mean earnings in the past month were low (R166, CI102-223, US$163). 50.1% (CI45.6-54.7%) of women reported experiencing physical IPV in the past 12m: 30.7% (CI26.3-35.2%) reported sexual IPV in the past 12m; and 58.3% (CI53.3-63.2%) reported physical and/or sexual IPV in the past 12m. In adjusted models, recent experience of any IPV was associated with being in a more controlling relationship (OR1.11, p< 0.01), experiencing greater hunger in the past month (OR1.04, p< 0.01), increased alcohol use by women (OR1.06, p< 0.05), experiencing emotional violence from an intimate partner in the past 12m (OR8.4, p< 0.001) and experiencing economic violence from an intimate partner in the past 12m (OR2.39, p< 0.01).

Conclusions: Women in informal settlements experience extremely high levels of recent physical and sexual IPV, placing them at high risk of acquiring HIV. Women who experience this are likely to also experience other forms of violence including emotional and economic violence. Hunger, alcohol use and lack of power in relationships are key risk factors for physical and/or sexual IPV. Therefore, interventions to reduce IPV may also reduce other forms of violence women experience, as well as work to strengthen women’s economic power and social power in relation to their partners.

Gender, HIV and violence: a qualitative study assessing young people’s perceptions of gender in rural and urban communities in Uganda

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Background: Inequitable (or negative) perceptions of gender are often associated with poor health outcomes. Currently, there are global efforts to address inequitable gender attitudes at an early age before these norms become internalized. However, little is known about inequitable gender norms at an early age, their constructs, and how they may influence HIV-related outcomes in high HIV prevalence settings like Uganda.

Methods: Data are from a larger study assessing gender perceptions of young people in rural and urban communities near Kampala, Uganda. Twenty-four participants aged 15-24 participated in individual in-depth interviews from June - August, 2015. Interviews were audio recorded, transcribed and analyzed using thematic analysis.

Results: Traditional attitudes towards gender roles still exist, and participants affirmed that these are shaped by socially accepted messages and adult behavior on expected behaviors for boys and girls. Similarly, participants stated that media and other external sources (e.g. school, print and electronic media) are increasingly becoming important in influencing gender norms. Responses from questions on ideal behavioral expectations reveal that from an early age boys and girls are assigned different duties. Boys are given outside work (e.g., driving water and cattle rearing), while girls are given inside work (e.g. cleaning or child care). Most participants believed that boys should initiate and dictate the terms of sex by determining when, how and with whom to have sex with. Close to half of the participants, more so the less educated, felt that girls should avoid conflict with their partners and therefore be available for sex on demand. Hence, some girls felt that they are at greater risk of contracting HIV because of their inability to control their sexuality. Although male violence against women, was common and practiced among married participants, many unmarried boys felt that it was “okay” to shout down or hit a girl to “discipline” them.

Conclusions: The findings reveal links between socialization processes and gender roles for young people specifically, and associated HIV risk and gender-based violence. These factors are typically not addressed in HIV prevention programs that serve young people and should be considered.
**THPED351**

**REDEFINING THE ROLE OF MEN IN THE FIGHT AGAINST GBV AND HIV-MEN AS PROTECTORS CAMPAIGN ON ZERO DOMESTIC VIOLENCE AND HIV AMONG WOMEN IN MALAWI**

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**Background:** Increased male involvement in interlinked GBV and HIV prevention programmes significantly contributes to reduced incidences of GBV and HIV among women and girls as well as access to HIV prevention and treatment services. Men have for a long time been regarded as perpetrators of domestic Violence and a group so promiscuous and responsible for HIV transmission. This kind of thinking and labelling has contributed to limited involvement and created a gap in GBV and HIV programming. SAAIDS, with support from United Nations Trust Fund (UNTF) implemented a three year project that employed Men as Protectors Clubs as a strategy for male involvement in GBV and HIV prevention.

**Description:** The project was implemented from September 2011 to August 2014 and focused on influencing change of cultural practices that fuel domestic violence and HIV among women and girls. The beneficiaries were women and girls (15 and 49) and targeted traditional leaders, religious leaders, and men as key change agents. It was implemented in 2 districts of Phalombe and Nsanje. The project employed the Men as Protectors (MasP) model where men were mobilized into their own clubs, MasP clubs were trained and clubs conducted men dialogues sessions, men speak out sessions, community awareness on GBV and HIV, referred survivors and former perpetrators to services delivery points.

**Lessons learned:** 8400 men were reached by MasP Club members. A total of 3771 and 435 men received HTC and VMMC services respectively. 782 men reported accompanying their wives to health clinics for various health services including Ant Natale Care (ANC), PMTCT and deliveries. Domestic violence cases were not cases in couples where men are members of Men as Protectors Clubs i.e no cases were reported in Nsanje between January-June 2014 in T/A Ndameru in Nsanje district.

**Conclusions/Next steps:** Men need their own space to have conversations on issues affecting their lives, families and communities and labelling men as perpetrators of GBV negatively affects their participation in GBV and HIV prevention efforts. Male participation should form part of GBV and HIV efforts and awareness on inter-linkages between GBV and HIV needs to be strengthened in GBV and HIV programmes.

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**THPED352**

"HIDING OUR SEXUALITY IS THE MOST CHALLENGING PART OF OUR LIFE": THE ROLE OF GENDER NORMS ON LESBIAN, GAY, BISEXUAL AND TRANSGENDER YOUNG PEOPLE'S HIV EXPOSURE IN KINGSTON, JAMAICA

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**Background:** Eteronomic views of gender roles cause LGBT youth in Jamaica to experience familial, societal, and institutionalized stigma, and violence. One LGBT community organization in Jamaica received 231 reports of incidents of anti-LGBT violence from 2009-2012. The aforesaid experiences lead many individuals to engage in self-protective strategies to avoid violence that may increase their exposure to HIV. As such, we explored the impact of gender roles, and self-protective strategies among LGBT youth in Kingston, Jamaica.

**Methods:** Seventy-three individual semi-structured interviews were conducted with young (aged 18-29 years) gay/bisexual men (n=20), transgender women (n=20), lesbian/bisexual women (n=20), and key informants working with LGBT populations (n=13) in Kingston, Jamaica. Additionally, we held three separate focus groups with young gay/bisexual men (n=10), transgender women (n=8), and lesbian/bisexual women (n=6) in Kingston. The interviews and focus groups were digitally recorded and transcribed verbatim. Narrative thematic analytic techniques were implemented to analyze themes in the data.

**Results:** Participant feedback indicated the societal view of heteronormative gender roles was incorporated into the intrapersonal (individual), interpersonal (relationships, family), community (religion) and institutional (employment, health care services) layers of LGBT youths' lives. Almost all participants discussed using self-protective strategies—assuming heteronormative gender roles on an occasional or frequent basis while in public. This strategy included changing one’s physical appearance and manners to match traditional views of masculinity and femininity and in some cases, engaging in anti-LGBT violence and stigma. Participants also noted anti-LGBT stigma prevented many youth from having meaningful, long-term romantic relationships due to the fear of being ‘outed’ by community members, and restrictions on public displays of affection. This stigma led many individuals to partake in anonymous sexual encounters with multiple partners which can augment exposure to HIV.

**Conclusions:** The findings denote LGBT youth implement self-protective strategies to reduce experiences of anti-LGBT stigma, and violence. While participants indicate these strategies are effective, they limit youth’s ability for self-expression, and increase their exposure to HIV and mental health issues. Additional research must address the impact of gender norms on LGBT youths’ sexual practices in Jamaica.
FEMININITY, MASCULINITY AND TRANSGENDER ISSUES

THPED354
“MAN ‘FY ACT LIKE A MAN’: UNDERSTANDING THE INTERSECTIONALITY OF SEXUAL IDENTITY POLITICS, GENDER PRESENTATION, AND HIV VULNERABILITY FOR YOUNG JAMAICAN MSM

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Background: One-third of the 2,500 new HIV infections in 2012 were among young Jamaican men who have sex with men (JMSM). Jamaica, like other Caribbean islands, has well prescribed conceptualizations of maleness and masculinity. Men who deviate from such ascribed definitions of masculinity often face violent, sometimes deadly, homophobic violence. In this study we interrogated the intersectionality of sexuality, gender, homophobia, and HIV vulnerability for young gender-nonconforming JMSM.

Methods: In this qualitative descriptive study, we used semi-structured in-depth interviews with individuals and focus group discussions as the primary sources for data collection. Thirty young JMSM were recruited in spring 2013 from five parishes in Jamaica. All data were recorded, transcribed verbatim, and analyzed using thematic content analysis.

Results: Participants were aged 18-29 years and self-identified as gay or bisexual. The majority articulated to varying degrees a feminine gender presentation, based on a visual analog scale of gender identity, sexuality, and behavior. JMSM in this study lamented that maleness and masculinity were often defined and enforced by heterosexual, hyper-masculine inner-city men; religious ideology and pedagogy; and the selective spaces created by Jamaican popular culture. The ability for some JMSM to express their desired gender freely was restricted to their geo-economic, political, and social environments. For others, efforts to reconcile their feminine presentations with the cultural definitions of masculinity were often futile, leaving them no choice but to flee their communities, engage in commercial sex work or survival sex, or engage in other high risk sexual behaviors; all of which decreased familial social support and suitable employment prospects, increased their risk for HIV infection, and limited their access to vital public HIV prevention and treatment services.

Conclusions: Jamaican public health efforts aimed at curtailing the HIV epidemic must be inclusive of those MSM who are gender nonconforming. Accessing governmental and community-based HIV prevention and treatment resources may be difficult for some young JMSM due to the social and cultural constraints defining masculinity in Jamaica. In addition to creating culturally appropriate inclusive public health policies to reduce the HIV burden in Jamaica, non-discrimination legislation that guarantees equal protection for JMSM is urgently needed.

EXPERIENCES AND NEEDS FROM THE PERSPECTIVE OF SEX WORKERS

THPED355
‘OUTDATED LAWS, OUTspoken WHORES’: DECRIMINALISING SEX WORK IN THE SOUTH AUSTRALIAN CONTEXT

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Background: Sex workers globally advocate for the decriminalisation of sex work. It is evident from the literature that decriminalisation is the most appropriate model to govern sex work and has the greatest effect on the course of HIV and STI transmission when compared to other regulatory models.

In South Australia, sex work is criminalised and consequently sex workers are left behind; working under laws that impinge on both sex worker health and human rights.

Methods: This qualitative study was conducted in Adelaide, 2015. The first sample consisted of sex workers recruited from the Sex Industry Network. Interviews were transcribed verbatim. A theoretical thematic analysis was chosen to code the data, then further analysed at the latent level to gain an understanding of sex worker experiences working under criminal laws. The second sample was the parliamentary debates discussing the bill to decriminalise sex work. Again, the data was analysed using thematic analysis, followed by latent level analysis to uncover the barriers halting law reform and the attitudes towards sex work from members of parliament.

Results: There was a contrasting understanding of sex work between the samples. The first sample showed that, for sex workers, criminalisation has led to work concerns surrounding occupational health and safety, outreach, barriers to health services, and police involvement within the sex industry. All interviewees showed support for decriminalisation. Traditional morality, violence and trafficking were the major themes found to influence opposition to reform in the second sample and build a case for sex work being presented as problematic, therefore further stigmatising sex work and neglecting health and human rights.

Conclusions: Research in South Australia pertaining to sex work is nearly non-existent. The findings of this study therefore contribute to building understandings around the need for decriminalisation. Traditionally, sex worker voices have been silenced in research; this study honours sex worker voices and experiences, and thus makes a unique contribution to both decriminalisation and sex worker literature. Furthermore, decriminalisation has been shown to reduce the prevalence of HIV and STIs, and as such may have implications reducing the spread of these communicable diseases worldwide.

THPED356
PRESENTING THE EVIDENCE: 20 YEARS OF DECRIMINALISATION OF SEX WORK IN AUSTRALIA

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Background: In Australia models of sex work regulation vary across each state & territory, providing a unique position to compare the effects of decriminalisation and other legal models. Sex work was decriminalised in New South Wales in 1995 in response to Royal Commission findings of systemic corruption within law enforcement. Decriminalisation removes police as regulators, removes criminal laws, and regulates sex work through a whole government approach utilising standard occupational, planning and industrial mechanisms. After 20 years of lived experience, we reflect on the lessons learned and our aims going forward.

Description: As the peak national organisation for sex workers, Scarlet Alliance collects data via national forums, working groups and surveys. Scarlet Alliance conducted a five-stage consultation process with our membership, including sex workers from a range of genders, experiences and backgrounds. We reviewed relevant literature, health research and government reports to examine policy successes and areas in need of reform.

Lessons learned: Decriminalisation of sex work in NSW has resulted in high rates of safer sex (Law and Sex Worker Health Study); low rates of sexually transmissible infections (Australia’s National HIV and STI Strategies); improved Workplace Health and Safety (NSW Government Brothels Taskforce); few amenity impacts and no evidence of organised crime (Land and Environment Court). Sex workers in NSW can access free health services, free legal advice and have their industrial rights acknowledged and protected. In jurisdictions with licensing or criminal frameworks, sex workers do not have the same access to services, rights or justice.

Conclusions/Next steps: Decriminalisation is the best-practice model and is imperative to sex workers’ health, safety and rights. It is the optimal model of sex work regulation, supported by the UNFPA, UNDR, UNAIDS, WHO and Amnesty as necessary for HIV prevention, anti-discrimination, human and labour rights. After 20 years of success, advocacy is necessary. Stigma, increasing political pressure to criminalise clients, hostile funding environments, and institutional discrimination remain significant barriers to the uptake of this model. Decriminalisation must be coupled with comprehensive human rights and anti-discrimination protections to be fully effective. The comparative experience of NSW offers an essential evidence base for governments, researchers, health sector and sex workers internationally.
Background: Condom breakage hinders HIV prevention efforts. We examined why condoms broke and what actions were taken after breakage by female and male sex workers (FSWs and MSWs, respectively) and their clients in Mombasa, Kenya.

Methods: We conducted 75 semi-structured interviews with sex workers and clients recruited from 18 bars/nightclubs in Mombasa to guide intervention development. Eligibility criteria were ≥18 years, regular patron of venue, having solicited for vaginal/anal intercourse with sex worker/client at that venue in last 3 months, willingness to have the interview audio-recorded, and being visibly sober.

Results: Condom breakage was common among FSWs, MSWs and their clients, with most (61/75) having experienced breakage at least once or on numerous occasions. Sex workers blamed clients for most breakages, accusing them of deliberately tearing condoms, wearing condoms inside out or failing to remove the air bubble due to drunkenness. They also said clients generated “too much friction” during sex due to their “big” penises, thrusting too forcefully during sex, or taking too long to ejaculate. Some clients admitted to tearing condoms before sex and using traditional herbs to increase sexual stamina and delay ejaculation. Other reasons that sex workers and clients mentioned for breakage were inadequate or non-use of lubricants, “dry vaginas,” and MSWs who “squeeze the penis tightly” during anal sex.

Breakages were noticed by the majority of participants during sex but some only noticed the breakages after sex. Most participants in the former group immediately stopped sex and changed the condom. However, a number did not stop or notify sexual partners: clients did not want to interfere with their own sexual enjoyment and sex workers were too afraid to ask the client to change the condom. A number of clients and sex workers also went for HIV testing and/or took post-exposure prophylaxis following condom breakage.

Conclusions: Despite the use of condoms, HIV transmission between sex workers and their clients was common due to condom breakage, which sometimes is intentionally done by clients to enhance pleasure. Condom promotion for both sex workers and clients might still occur due to frequent condom breakage, which sometimes hinders HIV prevention efforts. We examined why condom breakage among FSWs, MSWs and their clients in Mombasa, Kenya.
18 paying clients and 2-5 non-paying partners. Most reported accessing services at NGO’s however these services were limited to HIV testing and male condoms. Although public healthcare facilities had a wider range of services, participants, especially migrant FSWs found it difficult to access services. Services were available but problematic to access due to poor healthcare provider attitudes and experiences of breaches of patient confidentiality. “... they call one another, saying ‘come and see someone who is selling her body; does this person have to get help if she is like this?’”. Although condoms were relied on for contraception, STI/HIV prevention they were used inconsistently: paying clients (90.2%) and regular partners (55%). Additional barriers were, police violence, as many reported instances of harassment or the confiscation of condoms, and clients often demanding unsafe sex. Those accessing HIV testing at NGO’s (39%) reported limited linkage to care. Many accessed STI treatment at a clinic (42%), and services, such as family planning and pap smears, were noted as needed but not accessed (23.3%). Other needed services were TB services, ARTs, trauma counselling and alcohol rehabilitation.

Conclusions: In order to improve FSWs health seeking practices, issues such as stigma, ease of access, range of SRH and HIV services provided by NGOs, low use of contraceptive methods must be prioritised.

THP0362 CHARACTERIZING THE PATTERNS OF HIV DISCLOSURE TO CLIENTS AMONG AFRICAN FEMALE SEX WORKERS IN PORT ELIZABETH

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Background: Female sex workers (FSW) in South Africa have consistently been found to have a disproportionately high burden of HIV even in the context of the largest HIV epidemic in the world. Disclosure of HIV status is encouraged between couples; however is less known about determinants of disclosure of HIV status between FSW and their male clients.

Methods: 410 adult FSW were recruited using respondent-driven-sampling (RDS) in Port Elizabeth, South Africa from October 2014–March 2015 and completed a structured survey instrument and HIV counseling and testing. Stata version 14.1 and Pearson’s chi-square statistics were used to conduct the analysis.

Results: Of the 410 participants, 214 knew they were living with HIV and were included in the analysis. Of these known HIV+FSW, the mean age was 27.8 (SD=5.7) and 74 (84.7%) reported disclosing their HIV-positive status to paying clients. FSW were more likely to disclose if they also disclosed to non-paying partners (47.4% vs.25.5%, p<0.05) or if they told their family they were practicing sex work (43.0% vs 28.9%, p<0.05).

Communication about a paying client’s HIV status was also associated with increased FSW disclosure to new (85.7% vs.26.3%, p<0.01) and regular clients (92.6% vs.27.0%, p<0.01). FSW were less likely to disclose to clients they met online (23.2% vs.40.2%, p<0.05) or to those with whom they arranged sex in a hotel or guesthouse (29.9% vs.42.9%, p<0.05), whereas they were more likely to disclose if they met clients at a brothel (54.2% vs.32.3%, p<0.05).

There was no significant relationship found between disclosure behavior and the FSW’s HIV treatment, depression, violence, substance abuse or condom use with clients.

Conclusions: These results suggest that FSW are more likely to disclose their HIV status to clients if they have more open communication patterns with clients, non-commercial intimate partners and family, or are in a familiar environment. Moreover, a safer sex work environment combined with efforts to increase communication skills may be able to improve disclosure. Service delivery partners and government should work to create more supportive and safe environments to improve uptake of HIV prevention and treatment services.

THP0363 MEASURING THE IMPACT OF INTERPERSONAL COMMUNICATION ON HIV TESTING IN MADAGASCAR

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Background: Statistics show a low prevalence of HIV in Madagascar, 0.4% among 15-49 year olds, (UNAIDS, 2011) and 1.2% among female sex workers (Study on Bio-Behavioral Among Sex Workers, National Committee on Fight Against AIDS2013). PSI Madagascar uses its network of socially franchised health clinics (Top Réseau) to offer HIV services to high risk populations such as sex workers. Peer educators in collaboration with Top Réseau clinics use interpersonal communication (IPC) to promote the availability of this service. This paper examines whether the IPC intervention activities led by peer educators for female sex workers is resulting in higher rates of HIV testing in Top Réseau facilities.

Methods: A quantitative survey was conducted among female sex workers in July 2014 in 8 Top Réseau sites. Sex workers were recruited using proportionality proportion-

al to size from a sampling frame of hotzone (an area where sex workers wait for the clients) that was created prior to the the survey. A total of 1,041 female sex workers ages 18 to 49 years were interviewed in 8 Districts where PSI-franchised facilities Top Réseau are located. The analysis used prospective matching for exposed and unexposed individuals using coarsened exact matching (or CEM). Logistic regression and ANOVA procedures were conducted using STATA version 13.0 to determine the impact of interpersonal communication on HIV testing uptake.

Results: 74.4% of the sex workers reported ever testing for HIV. 76.8% among sex workers exposed to IPC interventions reported testing compared to 49.6% among those not exposed (p<0.001).

IPC interventions were associated with increased perception of testing availability with 95.4% among exposed, compared to 84.8% among non-exposed (p<0.05). Those exposed were also more likely to report the ability on what to do get to HIV testing services (91.2%) versus those sex workers not exposed (74.4%) (p<0.01).

Conclusions: The findings show that IPC communication activities are an effective way to encourage HIV testing among female sex workers. The program has to develop an environment that supports the continued use of IPC for HIV testing.
THPED364

MIGRANT SEX WORKERS IN AUSTRALIA

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Background: Migrant sex workers are recognised as a priority population in Australia’s HIV/STI strategies. The dearth of reliable research on migrant sex workers has led to poor policies and programs that create barriers to effective HIV prevention. This is exacerbated by damaging stereotypes, misinformation and increased stigma and policing wrought by the global anti-trafficking movement, undermining prevention efforts and creating harm.

Description: Scarlet Alliance in partnership with Australian Institute of Criminology conducted the first large-scale research of migrant sex workers across Australia. The research included non-migrant sex workers to enable comparisons in demographic profile, work conditions, condom use and access to services. The migration experiences and motivations for migrating were also examined. Importantly the research included critical input of migrant sex workers in every level of the research design, dissemination and analysis.

Lessons learned: Peer-led research was a great success with over 1000 predominantly female sex workers engaged, with small representation of male and trans sex workers, 594 surveys deemed valid for analysis. Added to valuable research data, employing peers in all critical aspects resulted in many benefits. This will be the first time the full findings of the research will be presented at a conference. Many of the results reinforced reliable research in the area such as data on condom use and English proficiency and education levels. Other data, challenged what is perceived in this area, notably around the use of contracts to enable migration and sex work, access to services and sources of support and information and the perpetrators of threat to migrant sex workers. Data on work, migration experiences, condom use, sources of information, access to services will be presented.

Conclusions/Next steps: Successful HIV-prevention efforts require a more holistic understanding of migration and mobility for sex workers. The lived realities of migrant sex workers in Australia contradict public policy and discourse. This miss understanding has led to harmful interventions and programs that have created significant barriers to effective HIV prevention. It is hoped the findings of this research will inform evidence based policy, practices and service delivery for migrant sex workers.

THPED365

SEX WORK AND LABOUR RIGHTS IN SOUTHEAST ASIA

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Background: Sex workers in Asia face a range of labour rights violations such as harassment and violence, lack of labour contracts, excessive working hours and lack of health insurance and other forms of social protection. These violations increase the risk of HIV infection and create barriers for accessing HIV testing, treatment and support services.

Description: The ILO and community groups of sex workers carried out qualitative research on working conditions among sex workers in Cambodia, Thailand and Vietnam in 2014-2015 which identified instances of denial of labour rights and barriers to effective HIV service delivery. Sex workers led the research in collaboration with trade unions, employers and labour ministries.

Lessons learned: ILO research identified numerous challenges sex workers face in seeking decent working conditions. The majority are precarious employment and do not have labour contracts. Most are misled about their working conditions when they are hired and have little means to negotiate improvements with their employers. Violence was extremely common arising from employers, clients and police. The majority of workers are required to work over 10 hours a day, 7 days a week without breaks. Fines and penalties for absences to seek healthcare or attend to other personal or family needs are common.

Based on these findings, ILO supported sex worker organizations to advocate for improved labour policy and better working conditions in their workplaces. Advocacy has led to improved working conditions, which has in turn increased sex workers’ access to HIV testing and treatment services. In Cambodia, the Ministry of Labour issued a policy that provided labour protection to establishment based sex workers.

Conclusions/Next steps: A sound evidence based and social dialogue between sex workers and government and can lead to concreate changes in national policy and improved working conditions. Improved working conditions leads to increased access to health and HIV services.

THPED366

‘I FEEL SAFER, IT IS BUSINESS, NO COMMITMENTS’: OPPORTUNITIES AND OBSTACLES FOR CONDOM USE AMONG MALE AND FEMALE SEX WORKERS IN MOMBASA, KENYA

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Background: For more than three decades now, the place of condoms in the prevention of HIV and other STIs has dominated global discussions and the design and implementation of prevention programs. With the high prevalence of HIV among female sex workers (14.1%) and MSM (15.2%) being reported in Kenya (National AIDS Control Council [NACC] 2009), combination prevention programs have been rigorously implemented in the last six years. The objective is understand practices and discourses around HIV prevention and condom use among female sex workers and MSM sex workers.

Methods: The ethnography study used qualitative methods - observations of condom distribution in guest-houses; numerous conversations with clients of female sex workers, female and male sex workers and with key informants; three focus group discussions with female and male sex workers; 30 in-depth interviews with female sex workers; biweekly group discussions with economic diary participants; six-months daily life diaries of two MSM sex workers and two female sex workers; and numerous observations and discussions with a male and female sex worker on their daily experiences.

Results: While condoms were openly distributed to female sex workers in the company of their clients on paying for guest house room, the same was invisible among male sex workers. With condoms use, male clients of female sex workers felt more comfortable in embracing non-committal and safe casual sex relationships. Even though taking condoms does not equate to usage among female sex workers, it was clear that condom uptake is poor amongst MSM male sex workers, partly for the fear of one being suspected of being HIV positive and therefore lose clients/money.

Conclusions: Contrary to the notion that one may lose clients if they introduce condoms into casual sex negotiations, clients may, in fact, gain confidence and trust when condoms are introduced, discussed and used. Additionally, non-use of alcohol may contribute to increased condom use among female sex workers. There is need to engage clients of MSM sex workers in conversations on condom use.
VIOLENCE, WELLBEING AND SEX WORK

THPED367

PHYSICAL AND SEXUAL VIOLENCE, PERCEPTIONS OF POLICE, AND BARRIERS TO CONDOM USE AMONG WOMEN WHO STARTED SELLING SEX AS MINORS IN LESOTHO

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Background: In Lesotho HIV prevalence is among the highest globally, and four times higher among girls ages 15-17 than among boys. Sex work is criminalized, and HIV prevalence among female sex workers (FSW) is >70%. In addition, 86% of all women have experienced gender-based violence, and studies have called for more rigorous evidence on abuse and the exploitation of children. In this context, minors (< 18 years old) who sell sex may be particularly vulnerable to gender-based violence and HIV risks.

Methods: FSW aged 18+ (n=744) were recruited through respondent-driven sampling in Masero and Maputsoe from February-September 2014. They completed an interviewer-administered survey including a question about the age at which they started selling sex. We examined correlates of selling sex as a minor through multivariable logistic regression analyses for each city.

Results: Specific numeric results are presented in Tables 1-2. Compared to those who started selling sex as adults, early initiators were more likely to have been raped and physically abused. They had higher odds of avoiding carrying condoms to prevent getting in trouble with police and buying all their condoms rather than receiving some or all for free. Early initiators were more likely to describe their relationship with the police as bad or good rather than neutral.

(toddlitely through research with adult FSW. Increased protection of these women and decreased enforcement of laws prohibiting selling sex represent an important component of a comprehensive response to decrease significant HIV acquisition and transmission risks observed here.

THPED368

ASSOCIATION BETWEEN ALCOHOL CONSUMPTION AND GENDER-BASED VIOLENCE (GBV) AMONG FEMALE SEX WORKERS (FSW) IN IRINGA, TANZANIA

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Background: Female sex workers (FSW) in Tanzania experience very high levels of gender-based violence (GBV) (i.e. physical and sexual violence). In 2013, 52% of FSW in Tanzania experienced physical violence and 47% experienced sexual violence in the past 6 months. Violence can increase women’s risk for HIV directly through sexual violence and indirectly through risk behaviors including unprotected sex. Studies from other countries in sub-Saharan Africa suggest that GBV against FSW often occurs in the context of heavy alcohol consumption, suggesting that alcohol consumption may place FSW at increased risk for GBV.

Methods: A Phase II randomized controlled trial of a community empowerment-based combination HIV prevention intervention is being conducted in Iringa, Tanzania. By January 2016, 254 FSW were enrolled into an ongoing longitudinal cohort. Women completed an interviewer-administered baseline survey that measured GBV, HIV status, general alcohol consumption, alcohol consumption during sex work, and socio-demographic characteristics. Using multivariable logistic regression, we conducted two separate analyses assessing the association between both, alcohol consumption in general, and alcohol consumption during sex work, with experiencing any GBV in the past 6 months.

Results: Approximately 42% reported experiencing any GBV in the past 6 months. Alcohol use was high with 73.3% engaging in heavy alcohol consumption in the past month. Twenty-seven percent (27%) reported never/rarely consuming alcohol during sex work, while 44% sometimes, and 28% always/almost always consumed alcohol during sex work. Adjusting for marital status, age, and frequency of sex work in the past 30 days, heavy alcohol consumption was associated with twice the odds of experiencing GBV in the past 6 months (aOR= 2.0; p< 0.05). Additionally, FSWs who always/almost always consumed alcohol during sex work were 2.6 more likely to have experienced GBV in the past 6 months compared to FSWs who rarely/never drank alcohol during work (aOR=2.6; p< 0.001).

Conclusions: Our findings demonstrate that heavy alcohol consumption in general and during sex work are significantly associated with recent experience of GBV. These findings indicate the need to incorporate alcohol harm reduction approaches into HIV interventions for FSW in Tanzania to prevent future violence, and ultimately reduce female HIV risk.

THPED369

UNDERSTANDING FACTORS ASSOCIATED WITH HIV INFECTION AMONGST FEMALE SEX WORKERS IN SOWETO: A PROOF OF CONCEPT STUDY

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Background: Globally, sex workers (SWs) bear a disproportionate HIV burden. Despite South Africa entering its 5th decade of the HIV epidemic, very little is understood about the determinants of HIV amongst female sex workers (FSWs). This study aims to describe HIV infection, psychosocial and behavioural risk factors for HIV amongst FSWs in Soweto, South Africa as part of a proof of concept pilot study to evaluate a targeted peer led HIV prevention and treatment intervention.

Methods: The study used a cross sectional, respondent driven sampling (RDS) methodology amongst 40 FSWs. Participants completed a comprehensive survey and were tested for HIV, CD4 and viral load.

Results: Our findings show that the majority (83%) of the 64% of FSW, who were HIV infected, knew their status. Of those who knew their status 55% were on ARVs, and only 8/11 reporting adherence were virally suppressed. Just under a half of FSW (41%) reported a sexual assault in the preceding 12 months. Depression(84%
and post traumatic stress disorder (56%) were frequently reported mental health issues. Condom use was low, with 21% stating that they consistently used condoms with clients.

Conclusions: Our study demonstrated the urgent need for innovative interventions to combat the unacceptable high rates of HIV, violence exposure and mental health issues in FSW. The lack of HIV viral suppression despite treatment points to the need for tailored adherence support to minimise resistance and onward transmission. There was support by FSW for peer led interventions. Our work demonstrates the need to design targeted interventions that address the specific needs of this vulnerable population.

Violence has direct and indirect impact on increasing FSWs vulnerability to HIV and therefore the role of County Key Population (KP) support system in reducing violence and vulnerability of FSWs to HIV becomes important.

Description: In order to launch a response and mitigate violence faced by FSWs, a County Health Management Team (CHMT) was established under the leadership of County health staff. Different stakeholders that included FSWs representatives, HIV program implementing partners, police, lawyers and higher county leadership were made members of CHMT. This CHMT also acted as a county Technical Working Group (TWG) to provide program directions and creating an environment that helped reduce violence against FSWs. Through the TWG, several sensitization’s for police, KP, bar and lodge owners and Civil Society Organizations were conducted.

Lessons learned: Violence cases reported by KP programs were at 44 in March 2014 and this dropped to 13 by September 2015. Number of incidents of violence reported and addressed during the same periods increased from 55% to 71%. The County TWG managed to conduct five sensitization forums for different stakeholders who included; KPs, Law enforcers, Bar and Lodges managers and civil society organizations. The KPs also formed a WhatsApp group as a platform for reporting cases of violence and getting swift response and support from the Members.

Conclusions/Next steps: By involving all key stakeholders in the County, a more responsive support system to manage violence faced by KPs was put in place. The platform has been used for experience, knowledge sharing and empowering sex workers to advocate for their rights.

Background: Intimate partner violence (IPV) is an important health and human rights problem for HIV-positive women, and may compromise their ability to reduce the risk of secondary HIV transmission. We aimed to understand coping strategies used by HIV-positive Kenyan female sex workers (FSWs) who experience IPV.

Methods: Between November 2013 and August 2014, we purposively selected HIV-positive FSWs in Mombasa, Kenya. Participants reported having experienced IPV from a current or most recent regular emotional partner who was not a casual partner or a client. We conducted 11 two-part interviews including an initial intensive interview and a brief follow-up interview, and 2 focus-group discussions.

Data were coded and analyzed using content analysis. We employed the ecological framework of violence against women to understand women’s adaptive strategies to cope with IPV. Results were presented to a modified member check, which included FSWs who had not participated in the interviews or focus groups.

Results: Despite experiencing recurrent IPV, all women intended to stay with their abusive emotional partner. They employed a range of strategies to cope with IPV. Consistent with the ecological framework, avoidance was a common theme on the personal level. Women avoided thinking of the violence, focusing instead on their children and work. Some resorted to alcohol use or suicide attempts. At the interpersonal level, acceptance, resistance, and minimization of violence emerged as key strategies for coping with violent emotional partners. Most women normalize their partners’ violent behaviors. To avoid recurrent IPV, some women reported seeking support in non-existent support. Others reported no problem negotiating condom use with their emotional partner. At the family/community level, about half of the women reported seeking help for IPV, typically from a sibling, friend, or church member. Most women avoided reporting IPV to the police, because they felt that police were ineffective or untrustworthy.

Conclusions: These HIV-positive Kenyan FSWs have developed coping strategies for IPV. Some, such as alcohol use and unprotected sex, may have negative consequences for women’s health, and may pose a risk for secondary HIV transmission.

Background: Violence cases in Nakuru County among female Sex Workers (FSWs) are of great concern. The 2014 Polling Booth Survey conducted by NASCOP revealed that 11% of FSWs reported to have been ever beaten or physically forced to have sex in 2014 and this later rose to 15% in 2015 (NASCOP 2015). In the same survey, FSWs that had been beaten or arrested by the law enforcers rose from 44% (2014) to 61% (2015). Between October 2015 and January 2016 six cases of FSW deaths perpetrated by their male clients was also reported.

Violence is one of the most important factors affecting the vulnerability of sex workers to HIV/AIDS. Violence stops sex workers accessing necessary information, support and services that help to protect them from HIV/AIDS. It also puts them in situations that make them more vulnerable to HIV/AIDS. Modelling estimates show that a reduction of almost 25% in HIV infections among sex workers may be achieved when physical or sexual violence is reduced. Psychical and sexual violence increase HIV infection and decrease condom use. This study looks at the risk factors associated with violence against sex workers.

Methods: Trough a participatory mixed methods design 2086 sex workers were reached in Botswana, Namibia, South Africa and Zimbabwe (Survey, N=1762, in-depth interviews, N=171, and FGDs, N=153). The standardized survey was established with sex worker-led groups and distributed through peers. The survey focussed on violence, perpetrators, social capital, health determinants and risk and mitigation factors.

Results: Overall violence experienced was high (Physical Violence 79%, Economic violence 72%, Sexual violence 77%, Emotional Violence, 89%). Logistic regression analysis showed that street-based sex workers and sex workers that work through internet are more at risk for violence then their venue-based peers (P< .001), as are sex workers that disclose their profession (P< .01), that are being arrested (P< .001) and use drugs and alcohol during work (P< .01). (in)constant condom use and being HIV positive, showed mixed results in the different countries. In most countries being HIV positive increased the risk of violence.

Conclusions: Criminalizing laws and policies make sex workers more vulnerable for HIV and violence, trough arrest, stigma & discrimination and incomprehensive support packages. Condom distribution is an essential part of HIV prevention for sex workers. But without inclusion of training on safe negations skills, violence can be provoked and therefore increase the risk of HIV infection.

Background: Transgender sex workers are originally outputted from Shenyang, a northeastern city in China during the past 25 years to southern part of China. Due to the severe social discrimination from mainstream media and the social public, these transgender sex workers had to migrate to distant cities or even countries.
say, Thailand, Singapore and Malaysia to make a fortune. In order to increase their social visibility and acceptance, it is crucial to document this specific population and generate non-discrimination publications to the society.

Methods: With regard to increasing the visibility of transgender sex workers, we have spent 3 and a half years to shoot documentaries and take photos to document this specific population in China. During the past 3 years, we have organized 11 times of photo exhibitions and 8 times of documentary screening in different cities of China, such as Beijing, Shenyang, Guangzhou, Hong Kong and Bangkok. There were two ways of collecting photo and video materials: 1) we recruited a transgender photographer to live with these transgender people and document their daily scenes; 2) we organized a series of media empowerment trainings to enable them to document their own life.

Results: By far we have composed two individual documentaries and more than 2,000 well-polished photos. Through organizing photo exhibitions and documentary screening, we have propagate the key results directly to some 1,200 people from the society. With the help of our propagation, we have help to spread awareness to more than 12 local non-government organizations and student unions that serve transgender people as well as people living with HIV. Another positive impact is that through organizing photo exhibitions and documentaries screening, we successfully attracted the attention of mainstream media. So far, our events have been reported by more than 20 different mainstream media companies.

Conclusions: Although in China the visibility and social acceptance to transgender people and sex workers has been improved in many first-tier cities, it is still unsatisfying, for in a lot of second-tier cities transgender sex workers are still stigmatized and discriminated. Media advocate as well as policy-based advocate should be more combined to make the situation much better.

THPED374

DISCLOSURE OF VIOLENCE AMONG FEMALE SEX WORKERS IN INDIA: EVIDENCE FROM AVAHAN PHASE-III EVALUATION

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Background: Disclosure of violence is one of the key indicators in violence prevention and reduction programmes among high risk group population, especially among female sex workers (FSWs) in India. Physical and sexual violence experienced by FSWs, perpetrators of violence, disclosure and non-disclosure of violence, association with membership in Community Organizations (COs) are examined in this study.

Methods: Data were drawn from Avahan phase-III baseline evaluation survey conducted among 4098 FSWs across five states in India in 2015. The data were collected on experience of physical and sexual violence, STI symptoms, condom use, social protection, financial security. The analytical samples include FSWs who experienced either physical or sexual violence in past six months. Descriptive statistics, frequency, bivariate and multivariate logistic regression techniques were used for analysis.

Results: About 10% of FSWs experienced either physical or sexual violence. The major perpetrators of violence are intimate partners (45%), stranger/client (31%) police (6%), and others (18%). Among the FSWs who experienced violence, 48% disclosed about the last incident to the community organization while 52% did not disclose. Reporting last incident of violence perpetrated by strangers/clients were 1.8 times more likely to report last incident of violence to community organization when compared to police (62%), and others (56%). Anticipating sexual violence were 2.5 times (p=0.00) more likely to report avoiding or delaying HIV services.

Conclusions: Anticipated and experienced sexual violence are prevalent and negatively associated with general and HIV-specific healthcare seeking. Programming and policies to prevent and mitigate violence towards sex workers should also aim to improve links and access to essential health services; improving the wellbeing of sex workers, as well as the communities they live and work in.
THPE0376

DOCUMENT HUMAN RIGHTS VIOLATION AMONG TRANSGENDER SEX WORKERS AND ADVOCATE FOR EQUAL HUMAN RIGHTS BY SCREENING DOCUMENTARIES IN DIFFERENT COUNTRIES

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Background: In China there are hundreds of transgender sex workers living in Shenyang, Shanghai, Guangzhou, and Beijing. Due to the severe discrimination towards this population, transgender women find it extremely difficult to apply for a regular job in the society. In our previous research carried out in 2014, 94 percent of those transgender women are now working as sex workers, which serves as a crucial factor for aggravated discrimination by the public. The discrimination and ignorance from the society and legislation leads more human rights violation cases among transgender sex workers.

Description: In the past two years, we have interviewed and documented more than 60 transgender sex workers from different parts of China. So far we have composed 2 different short documentaries, which reveal the real life of transgender sex workers in China. In order to protect the privacy of this vulnerable population, we have not uploaded these documentaries onto mainstream media. Instead we screened the documentaries in different workshops, trainings and college classes. In 2015, one of the documentaries named Magic was selected to screen by Sex Worker Film & Arts Festival in San Francisco, Boston LGBT Film Festival, and Bangalore Queer Film Festival in India.

Lessons learned: After the documentaries been screened in 8 different universities and more than 20 times screening in different film festivals and workshops worldwide, we have found out that most of the audience were shocked by the human rights violation cases on transgender sex workers, such as the violation from local policemen, clients and other sex workers. Also, the higher HIV infection rate (about 40%) arouses public attention, too. The third focus was on the use of crystal meth among transgender sex workers.

Conclusions/Next steps: The human rights violation among transgender sex workers could not be ignored, since this is the key factor that affects their vocational discrimination and medical discrimination as a consequence. In the near future, we are going to hire a number of lawyers to pursue several judicial proceedings to achieve legal transform, and these documentaries would serve as evidences to increase the possibility.

THPE0377

PROVISION OF INTEGRATED SEXUAL AND REPRODUCTIVE HEALTH AND HIV PREVENTION SERVICES FOR FEMALE SEX WORKERS

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Background: Sex workers in Zambia report that they are frequently exposed to HIV and STIs, and have multiple risks for infection, including multiple sexual partners, and barriers to the negotiation of consistent condom use. Sex workers are often in no position to control these risk factors in Zambia, because of the legal, political and social environment, and the context they live and work in - making them vulnerable to HIV and other STIs. Young Happy Healthy and Safe (YHHS) has increased the provision and uptake of integrated health services for sex workers aged 18-24, increased their access to SRH services and HIV prevention and thus improved their health and that of the wider population. An average of 120 sex workers access information and health services monthly.

Methods: To increase access to non discriminatory HIV and sexual and reproductive health and rights services to sex workers, YHHS worked with stakeholders from the health sector, police, Human Rights and NGOs. Through partner support, YHHS provided effective interventions for the prevention and referral of HIV, cervical cancer and STIs among sex workers and their clients. Through partnerships, a non discriminatory friendly environment for easy access to integrated health services by sex workers was created. The project also worked with the taskforce which included all the key partners such as the Zambia police for gender based violence.

Results: From January 2015 to December 2015: 198 sex workers accessed HIV counseling and testing, 115,000 male and female condoms were distributed, 56 sex workers accessed Maternal and child health services and a total of 425 were reached with SRHR, HIV prevention messages and 17 reported gender based violence to the police.

Conclusions: Working with different stakeholders using a project taskforce, peer educators, and access to information hubs, health services were made available, accessible, and acceptable without stigma and discrimination. As part of future projects scale-up and planning, the feedback documented from monitoring and evaluation informed YHHS the changes that occurred before and after intervention such as increased female sex worker access to services.

THPE0378

PERFORMING PUTA POLITICS AND ITS ROLE IN THE RESPONSE TO AIDS IN BRAZIL

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Background: The sex worker movement in Brazil has been a reference on the international landscape for its protagonist role in constructing a rights-based response to AIDS. This ethno-geographic and historical research documents their activism and how their navigated political turmoil and broad shifts in the country’s approach to HIV.

Methods: Research was conducted over a 36-month period from November 2011 through October 2014 and included archival research, participant observation with sex worker rights organizations, oral histories with 21 sex worker rights activists and 45 interviews with AIDS activists and government health, rights and security administrators in three Brazilian cities.

Results: Facing institutional and political challenges, sex worker activists used cultural forms to draw attention to injustices, challenge gender and sexuality norms and reduce the stigma that continues to surround prostitution by making visible what is commonly seen as immoral and/or transgressive. For example, a social media protest campaign declared happiness with their profession after a similar HIV prevention campaign was censored by the Ministry of Health and a Despo fashion show and soccer game demanded the right to work in response to violent World Cup police crackdowns. Archival research uncovered the historical roots of this form of politics that purposefully breaks with protocol and refuses victimization. Gabriela Leite’s statement in a 1989 article about the first national meeting on AIDS and prostitution is illustrative: “I felt that people were distant from everything and that the doctors were, of course, involved in a debate with themselves. So the next morning, I came back in a low cut black dress, high heels, exaggerated make-up and I talked about my life.”

Conclusions: The concept of puta politics is proposed to refer to this form activism that breaks down hierarchies and barriers between institutional structures and the street by strategically drawing on the flexibility and multiplicity inherent in the puta [whore] subjectivity to advance the goals of the sex worker movement. By confronting stigma as the primary driver of the AIDS epidemic among sex workers, the performance of puta politics advances a human rights-affirming approach to the epidemic that places sex workers at the forefront.

THPE0379

SEX WORKERS OUTREACH PROJECT INC.: MULTICULTURAL PROJECT

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Background: As a migrant sex worker in Australia I have experience working in a variety of legal regulation systems in different countries and have been a migrant sex worker peer educator at SWOP NSW for five years. The government and media use the idea of “sex slavery” to create moral panic and makes efforts to address the labor exploitation of migrant sex workers and legal pathways for sex work and migration more difficult. Furthermore, it creates stigma and barriers for migrant sex workers to access HIV/AIDs prevention, medical services and support.

Description: The Sex Workers Outreach Project, NSW (SWOP) is Australia’s longest established community based peer education sex worker organisation focused on HIV, STI and Hepatitis C prevention and health promotion for sex workers. Many of our service users are from culturally and Linguistically Diverse (CALD) communities. The SWOP Multicultural Project is staffed by Chinese, Thai and Korean speaking sex workers who provide non-judgmental and culturally specific support needed for truly peer to peer services. Peer translated resources, peer interpreting support, work place outreach, and sex industry specific health and safety training workshops are provided in workers’ first languages. We assist migrant sex workers to access non-discriminatory medical services and HIV/AIDS related social support. Advocating for
decriminalisation is also a key in our work to decrease stigma and discrimination. Lessons learned: Political factors and Media create the use of force, fraud or coer- cion to transport an unwilling victim into sexual exploitation image of migrant sex workers that provoked real public anxiety and moral panic. The project have empower migrant workers to positive image and provide services to worker become determine and autonomy towards their own sexual health and occupation.

Conclusions/Next steps: Culturally and linguistically diverse peer educators are most effective in providing peer support to migrant sex workers. It is essential for migrant sex workers to feel safe and not judged for them to engage with services. Through providing translated resources and workplace health and safety training workshop in workers first language the Multicultural Project at S&WOP has success- fully increased migrant sex workers access to HIV prevention education and support.

**THPED380**

**IMPACTS AND RESPONSES FOR SUBSTANCE USE AMONG CANADIAN WOMEN LIVING WITH HIV: A LATENT CLASS ANALYSIS**

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**Background:** Substance use can increase the risk of multiple negative health effects for women living with HIV (WLWH), in particular jeopardizing adherence to antiretro- viral therapy (ART) and lowering the likelihood of optimal treatment outcomes. We analyzed substance use patterns among a national cohort of WLWH in Canada to determine associations between substance use, social determinants of health, ART adherence and substance use patterns among a national cohort of WLWH in Canada.

**Methods:** Latent class analysis was used to model patterns of substance use among WLWH in the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHW/WHOS), a multi-site community-based research study. Seven indica- tors were included: alcohol, tobacco, cannabis, recreational drugs (Cocaine/ Ecstasy/MDMA/Acid/Mushrooms), misused prescription drugs (Benzodiazepines/ Diuretics/Oxytocin/Oxycodeine/Talwin and Ritalin/T3s and T4s), stimulants (Methamphetamine/Crack/Speed), and opiates (Heroin/Speedballs/Morphine/ Methadone). Fit statistics indicated best class solution. Multinomial logistic regres- sion models with class membership as the dependent variable identified independent co- variates.

**Results:** Of 1,363 WLWH: median age was 43 (IQR: 35–50); 41% identified as Caucasian, 30% African, Caribbean, or Black-Canadian, and 22% Indigenous; 87% were heterosexual and 6% were currently engaged in sex work. Among those on ART, 73.4% reported ≥5% adherence. We uncovered 6 latent classes of substance use: Abstainers (26.3%); Tobacco Users (8.8%); Alcohol Users (31.9%); Tobacco, Alcohol, and Cannabis Users (13.9%); Users of Non-I illicit and All I illicit Drugs (9.3%). Bivari- able analyses revealed increasing proportions of Indigenous women and sexual minorities, and decreasing incomes, resiliency scores and adherence with each subsequent class. Results were mirrored in multivariable analyses. Women identifying as Indigenous v. Caucasian (AOR: 1.71 (95% CI: 1.08, 2.73)) and LGBTQ v. heterosexual (2.24 (1.09, 4.6)), and those with resiliency scores < median (2.41 (1.37, 4.22)), incomes < $20,000 (3.6 (1.78, 7.28)), and adherence < 95% (2.41 (1.37, 4.22)) were more likely to be ‘Users of Non-I illicit and All I illicit Drugs’ than Abstainers.

**Conclusions:** There is considerable heterogeneity in substance use patterns among WLWH in Canada. Latent classes with increasing types of substances used were associated with lower ART adherence and increased societal marginaliza- tion. Addressing substance use and improving ART adherence requires responses that meaningfully involve WLWH in transforming the socio-structural barriers that threaten their health.

**THPED381**

**REWARDED: TREATMENT AND PEER SUPPORT FOR MEN WHO HAVE SEX WITH MEN WHO USE METAMPHETAMINE**

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**Background:** Metamphetamine use is a significant contributor to HIV transmis- sion risk in men who have sex with men (MSM). Approximately 11% of the MSM in Australia use metamphetamine, with use even higher (up to 35%) among MSM living with HIV (HIV). This compares to 2% of the general population.

Rewired is a model developed to reduce harm associated with metamphetamine use in MSM, inclusive of MSM HIV. This specialist program combines an evidence- based, harm reduction treatment group with a peer support group led by MSM HIV. The model adapts best practice substance use interventions, and tailors these for MSM using metamphetamine.

Rewired assists MSM to manage, reduce or cease metamphetamine use and re- duce, drug-related and sexual risk. Rewired overtly addresses the interplay between metamphetamine use, sex and HIV.

**Description:** The centre-piece of Rewired is a free, six-week group treatment pro- gram for MSM that equips MSM with skills and strategies to better manage their metamphetamine use and general health and wellbeing. The group focuses on topics including relapse prevention, metamphetamine and the brain, sleep and nutrition, HIV, sex, pleasure, mental health, and mindfulness. Participants are also provided the opportunity to join a post-treatment program peer support group run by MSM LIVH trained and under clinical supervision.

**Lessons learned:** Rewired evaluation demonstrated treatment group efficacy, with significant reductions in metamphetamine use and psychological distress and increases in personal wellbeing measured through validated pre- to post-program psychometric scales; these positive outcomes were maintained at 3.6 or 12 months post treatment. Qualitative data also revealed the importance of peer support and a specialist program for this population. It was demonstrated that the integration in treatment of MSM regardless of HIV status provided an effective intervention model.

**Conclusions/Next steps:** The Rewired program for MSM who use metamphet- amine demonstrates the potential for a specialist approach to reduce harm and HIV transmission risk in this vulnerable population and would be readily translatable to similar developed-country settings.

**THPED382**

**ON POINT: RECOMMENDATIONS FOR PRISON-BASED NEEDLE AND SYRINGE PROGRAMS IN CANADA**

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**Background:** Canada’s prison population is comprised of a disproportionate num- ber of Indigenous and Black prisoners, as well as individuals from low-income back- grounds with little formal education who use drugs and have mental health care needs. Against this backdrop, rates of HIV and HCV are respectively 10 and 30 times higher in prison than in the general population, and even higher among women and Indigenous prisoners. Although the HIV and HCV epidemics behind bars are principally fueled by the sharing of drug injection equipment, prison-based needle and syringe programs (PNSPs) are prohibited.

**Description:** To support PNSP implementation, a research study was conceptualized to determine a “best practice” framework for PNSPs in Canadian prisons. The study consisted of: (1) a stakeholder meeting that brought together former prisoners, re- searchers, health care providers and representatives from HIV, Indigenous, women’s health, harm reduction, and prisoners’ rights organizations; (2) travel to observe PNSPs at three prisons in Switzerland employing different modalities of distribu- tion; and (3) a data collection phase involving consultation with 30 former prisoners (9 women and 21 men) and 10 community and medical professionals from across the country.

**Lessons learned:** Research participants shared a high level of support for PNSPs and agreed about potential health benefits, including PNSP capacity to reduce HIV and HCV transmission behind bars. The study led to six recommendations for the effective- establishment of PNSPs in Canada, emphasizing the importance of: program ac-
INTERPLAY BETWEEN DRUG USE AND SEXUAL TRANSMISSION

THPED383

METHAMPHETAMINE USE INCREASES THE LIKELIHOOD OF CONDOMLESS ANAL SEX (CAI) AMONG VIETNAMESE MEN WHO HAVE SEX WITH MEN (MSM) WHO HAVE LOW SEXUAL SENSATION-SEEKING SCORES

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Background: Methamphetamine use and CAI have been identified as HIV risky behaviors. However, evidence of an association of methamphetamine use with CAI among MSM has been found inconsistently. Particularly, evidence from middle and low income countries are lacking. The aim of this study was to describe HIV-related sexual behaviors among MSM in Vietnam and explore the relationship between sex-related methamphetamine use and CAI.

Methods: From September through December 2014, 622 MSM were recruited in Hanoi and Ho Chi Minh City, Vietnam. We collected information on demographic characteristics, sexual behaviors, use of amphetamine-type stimulants (ATS) and other recreational drugs, sexual sensation seeking, depressive mood, homophobia, HIV-related stigma and belief in the efficacy of different HIV prevention strategies. We calculated descriptive statistics for demographic and sexual behaviors. We assessed the potential modification of the effect of sex-related methamphetamine use on CAI by sexual sensation seeking. The association of sex-related methamphetamine use with CAI was assessed by generalized linear modelling using modified Poisson regression and robust error variances.

Results: Majority of the 622 participants (74.0 %) exclusively had sex with other men. In the last three months, 75.7% reported any CAI, 23.2% reported engaging in sex work and 14.3% had used methamphetamine during sex. In the last twelve months, 21.1% reported group sex (of which 44.3% reported any CAI). Reporting any CAI was associated with living in Ho Chi Minh City vs. Hanoi, being versatile during anal sex, a greater degree of sexual sensation-seeking, and more strongly agreeing that withdrawal before ejaculation is effective in preventing HIV. Effect-modification analysis showed that sex-related methamphetamine use was related to higher probabilities of engaging in CAI among men who had low sexual sensation seeking scores of 2.6 or lower but not for men with higher scores.

Conclusions: We found a high rate of CAI reported by MSM participants. The effect of sex-related methamphetamine use on CAI was modified by levels of sexual sensation seeking, suggesting that methamphetamine use may facilitate men who otherwise do not seek riskier sex to engage in CAI. HIV and harm reduction interventions should consider targeting MSM who use methamphetamine for sex and sexually-adventurous men.
was common: among men, only 14% (48%) reported never having had group sex; 18% reported sex at one group sex event, 30% at two, and 5% at 10 - 300 group sex events. Among women, only 58% (43%) reported never having had group sex; 13% reported sex at one group sex event, 9% at two events, and 5% at 10 - 20 events.

### THPED387

**THE INFLUENCE OF SOCIAL NETWORK ON DRUG USE AND HIV RISK BEHAVIORS AMONG METH USERS IN THREE CITIES OF INDONESIA**

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**Background:** Crystal-meth use has become an emerging issue in Indonesia which covers about 1.2 million users across the archipelago. Research suggests that social networks have significant influence on drug use and also on HIV risk behaviors. This study aims to provide better knowledge on the mechanism by which social network influences on drug use and HIV risk behaviors among crystal-meth users in three big cities of Indonesia.

**Methods:** A qualitative research design was developed to produce a deeper understanding of the influence of social network of meth users on patterns of meth use and its implication to HIV risk. Thirty eight meth users in Jakarta, Medan and Makassar were interviewed using semi-structured interview guide. Analysis on social network's properties was performed to describe the mechanism by which social network influence on drug use and HIV risk behaviors.

**Results:** Three significant factors were identified as social network members: (1) friends, (2) extended families, and (3) sexual partners. Supportive friends and extended families, which provide significant help in borrowing money, pawning things, pooling money, or providing drugs. The temporary cessation or relapse in using meth is also influenced by the network. The network usually have a script in using meth in which seeking sexual pleasure is part of their use due to perception that meth is associated with sexual desire. Most informants report that they have multiple sexual partners and condom use are not common when they have sex.

**Conclusions:** The study finds that meth use is influenced by engagement in the social network which situated within experience of the informant across their lives. An HIV intervention focusing on sexual transmission should address this population, which is currently overlooked by the existing intervention.

#### TABLE

<table>
<thead>
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<th>Sex partners in the last 90 days</th>
<th># of partners of the given type in the last 90 days</th>
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<tbody>
<tr>
<td>Total sex partners</td>
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<tr>
<td>Female sex partners (Male respondents only)</td>
<td>12% 45% 31% 11%</td>
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<tr>
<td>Male sex partners (Female respondents only)</td>
<td>4% 47% 34% 15%</td>
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<tr>
<td>Male sex partners (Male respondents)</td>
<td>5% 58% 32% 6%</td>
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<tr>
<td>Female sex partners (Female respondents)</td>
<td>96% 1% 2% 0%</td>
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<tr>
<td>Sex partners who inject drugs</td>
<td>89% 8% 2% 1%</td>
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<tr>
<td>Sex partners they had sex with in a group setting</td>
<td>56% 31% 10% 2%</td>
</tr>
<tr>
<td>Sex partners they had sex with</td>
<td>93% 1% 5% 1%</td>
</tr>
</tbody>
</table>

**Intersecting Stigmas and Marginalized Identities**

### THPED388

**DESTABILISING HETEIDDENORMALITY. DESTIGMATISATION OF SEXUAL AND GENDER DIVERSITY IN AFRICA**

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**Background:** Sexuality and gender identity remain one of the largest barriers to access to rights, including healthcare, in Africa today. In almost every country across the continent there is institutionalised stigma and discrimination against sexually and gender diverse people. Stigma and discrimination is a known driver which prevents people who are lesbian, gay, bisexual and transgender from accessing HIV information and prevention. As threats have intensified, LGBT activists have been calling on governments and NGOs to respond to this crisis.

**Conclusions:** AIDS Accountability International initiated the Destabilising Heteronormativity project. The first of its kind on the African continent, a multi-country, multi-partnered project which tackles heteronormativity, the underlying norms which drive stigma and discrimination towards sexually and gender diverse people. If people who are LGBT mostly suffer discrimination at the hands of a society which is driven by heteronormativity, then we have to tackle the norms underlying that. The uniqueness and strength of this project lies in its lens, where a multi-pronged approach is used with a diverse range of partners. Building regional partnerships have been key to the project. This regional collaboration allows for people to build a movement of allies together with sexually and gender diverse partners.

**Lessons learned:** To destabilise heteronormativity and tackle stigma and discrimination we have to work at multi-levels which engages a diverse range of partners at local and regional level. This project has been a timely and much needed intervention at a time where stigma and discrimination has been intensifying across the continent. The hostile context towards LGBT people requires collective effort at addressing sexual and gender diversity. It requires addressing harmful norms and
attitudes which prevents sexually and gender diverse people from accessing their basic human rights. Allies are key in this intervention, particularly religious leaders, political leaders, researchers and health care workers.

**Conclusions/Next steps:** The first phase of the project is complete and in 2016 AAI is embarking on Phase 2. The importance of this project lies in the fact that it is African project run by Africans on sexual orientation and gender identity. This is also a knowledge producing project for Africans by Africans.

**THPED389**

**HIV STIGMA AND GENDER INEQUITY AMONG CISGENDER AND TRANSGENDER WOMEN LIVING WITH HIV IN HYDERABAD, INDIA**

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**Background:** HIV stigma in India has been recognized as a barrier to early detection of HIV, disclosure of HIV status to partners, and accessing healthcare services. The goal of this study was to explore how stigma differentially affects cisgender women and hijras/transgender women living with HIV in Hyderabad, India, particularly in terms of experiencing depression and utilizing medical care.

**Methods:** The study’s theoretical framework integrated gender role theory with Goffman’s conceptualization of stigma. A mixed methods design was used in two interrelated phases. In Phase I, 150 individuals living with HIV (50 heterosexual cisgender men, 50 heterosexual cisgender women and 50 hijras/transgender women) were recruited to complete a structured survey, conducted in either Hindi/Urdu or Telugu. HIV stigma scale scores were used to predict depression and medical care utilization, controlling for demographic variables. Stepwise multiple linear regression models were run on the statistical program STATA 13. In Phase 2, thirty individuals (15 cisgender heterosexual women and 15 hijras/transgender women), were recruited to complete in-depth interviews on their experiences with HIV, gender roles and nonconformity, poverty, caste and religion. Interviews were intended to understand the gendered experience of HIV stigma and to contextualize the answers from the survey. Interviews were translated, transcribed and thematically analyzed by two independent coders, using NVivo 10. Consensus was reached on all coding decisions.

**Results:** Interactions between gender and stigma had a statistically significant impact on health outcomes for cisgender and transgender women, namely in increasing risk for depression and decreasing utilization of medical care. Qualitative data revealed that for cisgender women in India, HIV stigma is impacted by restrictive gender roles, a limited ability to refuse or delay sex or marriage, and the prioritization of male partners’ health over females. For hijras/transgender women in India, sex work and gender nonconformity were important factors in impacting HIV stigma.

**Conclusions:** Interventions to improve the health of people living with HIV in India need to take into account the specific needs of both cisgender women and hijras/transgender women. Interventions that decrease the gendered experience of stigma will likely also improve women’s health care utilization and ameliorate women’s mental health.

**THPED390**

**ASSOCIATIONS BETWEEN MULTIPLE TYPES OF STIGMA AND DISCRIMINATION AND SEXUAL RISK BEHAVIOR AMONG YOUNG BLACK MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN THE UNITED STATES**

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**Background:** In the United States, young, black men who have sex with men and transgender women (YBMSM/TW) are the only populations with increasing HIV incidence. Stigma and discrimination related to sexuality, race, and HIV contribute to this health disparity by influencing risk factors for primary and secondary HIV transmission and preventing testing, treatment, and treatment.

**Methods:** healthMpowerment.org (HMP) is a mobile-phone-optimized, Internet-based intervention designed to reduce sexual risk behaviors among HIV-positive and HIV-negative YBMSM/TW. Baseline data from 474 HMP randomized controlled trial participants were analyzed to determine bivariate and multivariate associations between stigma and discrimination related to sexuality, race and HIV and one or more episodes of unprotected anal intercourse (UAI) in the last 3 months.

**Results:** Participants’ mean age was 24.3. Most identified as gay (60.4%) or bisexual (18.1%). Others identified as queer (1.5%), transgender (1.9%), questioning (2.1%), straight (1.7%), and other (9.3%). The majority reported negative or unknown HIV status (60.5%) vs. positive HIV status (39.5%). Overall, 66.1% reported at least one episode of UAI in the last 3 months. UAI did not vary significantly by HIV status. In bivariate analyses of those who reported HIV-negative/unknown status, higher levels of perceived HIV stigma and perceived homophobia were marginally associated with UAI (p=0.07 and p=0.09, respectively). The relationship between experienced racial discrimination and UAI was significant (p=0.01). In multivariate analysis, racial discrimination was associated with a greater likelihood of UAI (OR 1.18; CI 1.03-1.34) after controlling for age, education and income. For HIV-positive participants, higher levels of experienced HIV discrimination (p=0.02), perceived discrimination (p=0.01), perceived HIV stigma (p=0.02) and racial discrimination (p=0.02) were associated with UAI in bivariate analyses. Experienced sexual minority stigma was marginally associated with UAI (p=0.05). In multivariate analysis, education and income, greater perceived HIV discrimination was associated with increased likelihood of UAI although the relationship was only marginally significant (OR 1.07; CI 0.99-1.14).

**Conclusions:** YBMSM/TW experienced multiple intersecting types of stigma and discrimination. Examining the unique effects of these factors on UAI can identify priority areas for structural and individual-level interventions to help reduce risk of HIV transmission among this population.
THPED392
THE SOCIOECONOMIC DIMENSIONS OF HIV STIGMA: EXPLORING STATUS AND RESOURCE EXPLANATIONS

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Background: HIV-related stigma and discrimination can negatively impact the health and well-being of persons living with HIV (PLHIV) and hinder prevention goals. As others have emphasized, HIV stigma-reduction efforts require a multifaceted approach rooted in understanding of how power differences perpetuate stigma. We seek to better understand the role of economic power on HIV stigma. Our status hypothesis asserts that informational, attitudinal, and cultural factors within economically disadvantaged ingroups and more advantaged outgroups heighten conditions for stigmas directed at status-disadvantaged PLHIV. Our resource hypothesis contends that resource access challenges expose economically disadvantaged PLHIV to systems and interactions with a higher propensity for HIV stigma. We assess the extent to which these status and resource hypotheses may be supported among an exploratory sample of PLHIV.

Methods: The People Living with HIV Stigma Index was piloted in the US in 2014 among 70 PLHIV residing primarily in Southeast Michigan. The questionnaire measured 12-month stigma/discrimination experienced by PLHIV. Logistic regression models estimated the effects of status and resource disadvantage on the likelihood of experiencing social or institutional stigma, and of defending (self/others) against HIV stigma. Status disadvantage measures included sex work history and economic hardship. Resource disadvantage measures included homelessness and food insecurity. We further assessed whether social support offset disadvantage effects.

Results: After controlling for significant demographic traits, both homelessness and food insecurity were associated with a 5-times greater likelihood of experiencing social stigma. After also accounting for social support, PLHIV with a history of homelessness were 4-times more likely than others to experience social stigma, but food insecurity lost significance. Food insecurity was associated with a 3- to 4-times greater likelihood of experiencing institutional stigma compared to others, with or without (respectively) adjustment for social support. Measures of status disadvantage were not associated with social or institutional stigma. Over 60% reported challenging stigma in the prior years, with no differences associated with disadvantage.

Conclusions: Resource, not status, disadvantage was associated with increased exposure to social and institutional stigma. There were no resource or status differences in challenging HIV stigma. We discuss implications of our findings for future research and stigma-reduction efforts.

THPED393
THE IMPACT OF RESILIENCE UPON EXPERIENCES OF STIGMA: FINDINGS FROM THE STIGMA SURVEY UK 2015

P. Kirwan1, L. Benton1, W. Crenna-Jennings1, M. Hibbert1, I. Lut1, S. Okala1, L. Thorley1, D. Abbot1, J. Jeffries1, C. Kunda1, R. Mbewe1, S. Morris1, J. Morton1, M. Nelson1, H. Paterson1, M. Ross1,12,13, I. Reeves1, L. Sharp1, W. Swerns1,9,11, G. Valitos1,11, A. Wolton1,14, V. Delpch1, A. Hudson1,13
1Public Health England, HIV & STI Department, London, United Kingdom, 2Family Planning Association, London, United Kingdom, 3StigmaIndexUK, London, United Kingdom, 4British HIV Association, London, United Kingdom, 5Positively UK, London, United Kingdom, 6Terrence Higgins Trust, London, United Kingdom, 7Chelsea and Westminster Hospital, London, United Kingdom, 8Glasgow University, Glasgow, United Kingdom, 9UNIFIED Health and Beyond, Stigma Research, Detroit, United States, 10Stigma Index, London, United Kingdom, 11HIV Scotland, Edinburgh, United Kingdom

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Background: Psychological resilience is a measure of the ability to properly adapt to stress and adversity, with low resilience being linked to clinical depression and anxiety. Questions from the validated Connor-Davidson Resilience Scale (CD-RISC 10) were included in the STIGMA Survey UK 2015; we investigate how resilience can impact upon the level of stigma felt by people living with HIV (PLHIV).

Methods: The STIGMASurveyUK2015 was co-designed by PLHIV, clinicians and researchers. People were recruited through >120 cross-sector community organisations to complete an anonymous online survey about their experience of living with HIV. A resilience score was calculated for participants who had answered >7/10 questions about resilience, the mean of all completed responses was taken to impute the score for missing responses.

Results: The mean resilience score of the 1,568 participants who completed the survey was 26.5 (SD 8.2); this is comparable with similar studies among PLHIV. Through cluster analysis, 429 (27%) were classified as having low, 611 (39%) medium, and 528 (34%) high resilience. Resilience scores were correlated with time since HIV diagnosis, with those diagnosed prior to 2005 likely to have lower resilience than those diagnosed in more recent years (53% vs 39%, p< 0.001). Those with low resilience were more likely than those with high to have been diagnosed with depression (71% vs 22%) and to have experienced stigma through discrimination (verbal/physical abuse and exclusion) (46% vs 23%), anxiety (53% vs 24%) and/or avoiding social/experiences (54% vs 32%)

Background: HIV-related stigma and discrimination can negatively impact the health and well-being of persons living with HIV (PLHIV) and hinder prevention goals. As others have emphasized, HIV stigma-reduction efforts require a multifaceted approach rooted in an understanding of how power differences perpetuate stigma. We seek to better understand the role of economic power on HIV stigma. Our status hypothesis asserts that informational, attitudinal, and cultural factors within economically disadvantaged ingroups and more advantaged outgroups heighten conditions for stigmas directed at status-disadvantaged PLHIV. Our resource hypothesis contends that resource access challenges expose economically disadvantaged PLHIV to systems and interactions with a higher propensity for HIV stigma. We assess the extent to which these status and resource hypotheses may be supported among an exploratory sample of PLHIV.

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Conclusions: Resource, not status, disadvantage was associated with increased exposure to social and institutional stigma. There were no resource or status differences in challenging HIV stigma. We discuss implications of our findings for future research and stigma-reduction efforts.

THPED394
ECONOMIC HARDSHIP AND INTERNALIZED STIGMA: EARLY RESULTS FROM THE US PEOPLE LIVING WITH HIV STIGMA INDEX—DETROIT

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Background: In the US and worldwide, HIV-related stigma and discrimination are consistently identified as key barriers to HIV prevention, treatment, care, and support. The PLHIV Stigma Index project was designed to train and support people living with HIV (PLHIV) to measure and address stigma and discrimination in their settings with culturally and locally appropriate responses. In the US the PLHIV Stigma Index was piloted in Metropolitan Detroit in 2014 and 2015. Because of the racial and economic disparities in the US, particular attention in the analysis was placed on exploring relationships between these disparities and internalized stigma.

Methods: PLHIV were trained as interviewers and used a structured questionnaire to interview 70 persons living with HIV: 69% Black, 17% White, 59% Cisgender male, 31% Cisgender female, 10% Transgender, and 30% ages 18-25. Three measurements of internalized stigma—internalized negativity, anticipated stigma and social avoidance due to HIV status—were analyzed by age, race, key population status, gender, and economic hardship. Economic hardship was measured by experiences of homelessness, food insecurity and unemployment.

Results: Nearly 80% of our respondents experienced self-blame and/or guilt in the previous twelve months, 89% feared negative reactions from others, and 90% engaged in at least one form of social avoidance. Over 56% of our respondents had at least one form of economic hardship. A history of homelessness was associated with 10-times greater likelihood of reporting higher-than-average internalized negativity. Race and gender were not associated with differences in internalized stigma.

Conclusions: Most of the people in our sample experienced internalized stigma and discrimination for multiple reasons that included and went beyond their HIV status. The experience of economic distress, however, stands out for its strong correlation to increased internalized stigma. By contrast, respondents who felt most able to address stigma were those who were connected with or knew about HIV support groups, or services. Current efforts to support economically distressed PLHIV in metro Detroit focus on supporting HIV positive leadership training for PLHIV and other community members by educating them about HIV stigma and building networks and support systems for self-empowerment.

THPED395
THE IMPACT OF RESILIENCE UPON EXPERIENCES OF STIGMA: FINDINGS FROM THE STIGMASURVEYUK2015

P. Kirwan1, L. Benton1, W. Crenna-Jennings1, M. Hibbert1, I. Lut1, S. Okala1, L. Thorley1, D. Abbot1, J. Jeffries1, C. Kunda1, R. Mbewe1, S. Morris1, J. Morton1, M. Nelson1, H. Paterson1, M. Ross1,12,13, I. Reeves1, L. Sharp1, W. Swerns1,9,11, G. Valitos1,11, A. Wolton1,14, V. Delpch1, A. Hudson1,13
1Public Health England, HIV & STI Department, London, United Kingdom, 2Family Planning Association, London, United Kingdom, 3StigmaIndexUK, London, United Kingdom, 4British HIV Association, London, United Kingdom, 5Positively UK, London, United Kingdom, 6Terrence Higgins Trust, London, United Kingdom, 7Chelsea and Westminster Hospital, London, United Kingdom, 8Glasgow University, Glasgow, United Kingdom, 9Clinical, London, United Kingdom, 10Hornsey University Hospital, London, United Kingdom, 11NAZ, London, United Kingdom, 12HIV Scotland, Edinburgh, United Kingdom

Presenting author email: peter.kirwan@phe.gov.uk

Background: Psychological resilience is a measure of the ability to properly adapt to stress and adversity, with low resilience being linked to clinical depression and anxiety. Questions from the validated Connor-Davidson Resilience Scale (CD-RISC 10) were included in the STIGMAGSurveyUK2015; we investigate how resilience can impact upon the level of stigma felt by people living with HIV (PLHIV).

Methods: The STIGMASurveyUK2015 was co-designed by PLHIV, clinicians and researchers. People were recruited through >120 cross-sector community organisations to complete an anonymous online survey about their experience of living with HIV. A resilience score was calculated for participants who had answered >7/10 questions about resilience, the mean of all completed responses was taken to impute the score for missing responses.
**THPED395**

**ACCESS TO CARE, STIGMA AND SYSTEMIC VIOLENCE AGAINST HIV-INFECTED WOMEN IN THE PACIFIC REGION OF COLOMBIA**

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**Background:** HIV-infected women in the Pacific region of Colombia often face gender-based violence, extreme poverty, and forced migration. These women are underrepresented in the national health agenda, and their care is not designed with rural patients in mind, resulting in reports of high morbidity and mortality. However, there are no systematic regional data exists on this population that could be used to inform the development of more appropriate services.

**Methods:** In the Pacific region of Colombia, we perform a semi-structured, anonymous, non-representative questionnaire of 70 HIV-infected women in 2 Pacific states assessed access to care, stigma, stigma/ethnic discrimination, and quality of life; data was triangulated with qualitative information collected throughout interviews.

**Results:** The majority of women reported being infected by a stable partner, and women reported that they were denied services at least once, and fifty-six percent travel to another municipality for care, treating an average of two hours each way. More than one-fifth of the sample reported violations of confidentiality by healthcare workers with respect to their diagnosis. One hundred percent reported stripped the stigma of women. Women in the sample reported less access to education and economic resources than the general population, and almost half reported having not eaten any meals on one day in the past week. Forty percent of women had suffered consequences from the armed conflict including internal displacement and physical and sexual violence, and thirty-nine percent reported domestic violence.

**Conclusions:** Women infected by a stable partner are outside of typical risk groups, targeted by current preventive efforts, treatment, and services. Access to services is complicated by distance, lack of money for transportation, and childcare/home Maker duties. Stigma and discrimination worsen economic conditions of these women, and high rates of confidentiality violations and unresponsive civil services along with high rates of physical, emotional and sexual violence have caused mistrust in the justice and health systems.

Healthcare services must be adapted to serve the needs of poor, rural, female patients. These services must guarantee transportation costs and nutritional supplements in order for patients to successfully continue treatment.

**THPED396**

**EXPERIENCES OF DISCLOSURE AND DISCRIMINATION AMONG BLACK AND OTHER MINORITY ETHNIC GROUPS IN THE UNITED KINGDOM: FINDINGS FROM THE STIGMASURVEYUK 2015**

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1Public Health England, London, United Kingdom, 2Family Planning Association, London, United Kingdom

**Background:** In the UK, PLHIV from BAME communities are particularly vulnerable to HIV-related stigma and discrimination, with less control over and support during disclosure of their status and more experiences of discrimination in healthcare. These findings call for culturally and settings targeted interventions to address HIV-related stigma and discrimination that severely affect PLHIV access to healthcare and support.

**Methods:** We conducted semi-structured in-depth interviews with MSM (n=23); WSW (n=16); and transgender persons (n=12) in Mbabane and Manzini, Swaziland. We conducted key informant interviews (n=13) with persons working on LGBT, HIV and human rights issues, and with media, educators and peer research assistants. Interviews were conducted in isiSwati, digitally recorded and transcribed verbatim, then translated into English. We analysed interviews using narrative thematic techniques to identify and report themes.

**Results:** Participants discussed multi-level experiences of homophobia and transphobia that collectively appear to potentiate HIV vulnerabilities. Intrapersonal experiences of internalized stigma reduced self-esteem, which lowered safer-sex self-efficacy and contributed to sexual risk practices. At the interpersonal level, participants discussed engaging in multiple, concurrent, and heterosexual relationships to hide their sexuality. Participants described alcohol use as a strategy to cope with homophobia/transphobia, and LGBT community socializing centred in bars/clubs. Homophobia intersected with HIV-related stigma to produce beliefs that LGBT persons were ‘de-monic’, ‘promiscuous’, and responsible for the HIV epidemic. Participants reported experiences of homophobic ‘corrective’ rape targeting gender non-conforming persons. At the structural level, the criminalization of homosexuality and discrimination in healthcare settings limited LGBT persons’ access to HIV prevention, including education, condoms and lubricant.

**Conclusions:** Findings reveal the utility of the social ecological model in understanding multi-level impacts of homophobia and transphobia that elevate HIV vulnerability among LGBT persons in Swaziland. Comprehensive approaches to HIV prevention should consider addressing distal drivers of HIV—such as homophobia and transphobia—to ensure access to the HIV prevention and care continuum, including new prevention technologies, among LGBT persons in Swaziland.

**Experiences and Impacts of Homophobia and Transphobia**

**THPED397**

**SOCIAL ECOLOGICAL IMPACTS OF HOMOPHOBIA AND TRANSPHOBIA ON HIV VULNERABILITIES AMONG GAY, LESBIAN, BISEXUAL AND TRANSGENDER PEOPLE IN SWAZILAND**

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**Background:** While Swaziland has a broadly generalized epidemic, gay, bisexual and other men who have sex with men (MSM) have distinct HIV acquisition and transmission risks in Swaziland. Little is known, however, about the lived experiences of these men as well as transgender persons, and lesbian, bisexual and other women who have sex with women (WSW) in Swaziland. We use a social ecological theoretical framework to explore experiences of homophobia and transphobia, and the impacts of homophobia and transphobia on HIV vulnerabilities, among lesbian, gay, bisexual and transgender (LGBT) people in Swaziland.

**Methods:** We conducted semi-structured in-depth interviews with MSM (n=23); WSW (n=16); and transgender persons (n=12) in Mbabane and Manzini, Swaziland. We conducted key informant interviews (n=13) with persons working on LGBT, HIV and human rights issues, and with media, educators and peer research assistants. Interviews were conducted in isiSwati, digitally recorded and transcribed verbatim, then translated into English. We analysed interviews using narrative thematic techniques to identify and report themes.

**Results:** Participants discussed multi-level experiences of homophobia and transphobia in intrapersonal, interpersonal, community, and structural levels that collectively appear to potentiate HIV vulnerabilities. Intrapersonal experiences of internalized stigma reduced self-esteem, which lowered safer-sex self-efficacy and contributed to sexual risk practices. At the interpersonal level, participants discussed engaging in multiple, concurrent, and heterosexual relationships to hide their sexuality. Participants described alcohol use as a strategy to cope with homophobia/transphobia, and LGBT community socializing centred in bars/clubs. Homophobia intersected with HIV-related stigma to produce beliefs that LGBT persons were ‘de-monic’, ‘promiscuous’, and responsible for the HIV epidemic. Participants reported experiences of homophobic ‘corrective’ rape targeting gender non-conforming persons. At the structural level, the criminalization of homosexuality and discrimination in healthcare settings limited LGBT persons’ access to HIV prevention, including education, condoms and lubricant.

**Conclusions:** Findings reveal the utility of the social ecological model in understanding multi-level impacts of homophobia and transphobia that elevate HIV vulnerability among LGBT persons in Swaziland. Comprehensive approaches to HIV prevention should consider addressing distal drivers of HIV—such as homophobia and transphobia—to ensure access to the HIV prevention and care continuum, including new prevention technologies, among LGBT persons in Swaziland.
Background: Growing evidence suggests that the prevalence of depression among MSM is higher than that of non-MSM in many parts of the world, with studies citing high levels of stigma as a potential contributing factor. However, data on the prevalence and correlates of depression from low- and middle-income countries including West Africa are limited.

Methods: Data were collected using respondent-driven-sampling from MSM aged 18 years and older across multiple cities in Cote d’Ivoire (N=1,101), Cameroon (N=307), and Senegal (N=727). Participants were administered a survey including questions about lifetime experience or perceptions of sexual behavior stigma. Positive screens for depression were measured using a cutoff of 10 or greater on the PHQ-9. Logistic regression was used to explore bivariate associations of stigma with depression.

Results: Prevalence of depression among MSM ranged from 10.7% in Cameroon, 15.9% in Cote d’Ivoire, and 24.1% in Senegal. Prevalence of sexual behavior stigma was most commonly reported in the context of broader social settings, for example with verbal harassment being reported by 30.6% in Senegal, 37.1% in Cameroon, and 38.3% in Cote d’Ivoire. However, MSM also reported sexual behavior stigma in the context of family and healthcare settings. In all countries, the odds of depression were significantly higher with verbal harassment being reported by 30.6% in Senegal, 37.1% in Cameroon, and 38.3% in Cote d’Ivoire.

<table>
<thead>
<tr>
<th></th>
<th>Senegal</th>
<th>Cote d’Ivoire</th>
<th>Cameroon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt excluded by family</td>
<td>OR 3.52</td>
<td>95% CI 1.51-8.17</td>
<td>OR 2.85</td>
</tr>
<tr>
<td>Felt like family members gossiped</td>
<td>OR 3.01</td>
<td>95% CI 1.96-4.61***</td>
<td>OR 2.04</td>
</tr>
<tr>
<td>Felt rejected by friends</td>
<td>OR 3.26</td>
<td>95% CI 1.98-5.38***</td>
<td>OR 2.37</td>
</tr>
<tr>
<td>Aided to seek health services</td>
<td>OR 1.27</td>
<td>95% CI 0.82-1.97</td>
<td>OR 1.85</td>
</tr>
<tr>
<td>Avoided seeking healthcare services</td>
<td>OR 1.28</td>
<td>95% CI 0.80-2.02</td>
<td>OR 2.04</td>
</tr>
<tr>
<td>Treated poorly in a healthcare center</td>
<td>OR 2.01</td>
<td>95% CI 0.78-5.19</td>
<td>OR 4.66</td>
</tr>
<tr>
<td>Gossiped about a healthcare worker</td>
<td>OR 1.40</td>
<td>95% CI 0.68-2.89</td>
<td>OR 3.41</td>
</tr>
<tr>
<td>Felt like police refused to protect</td>
<td>OR 1.87</td>
<td>95% CI 1.00-3.48*</td>
<td>OR 2.43</td>
</tr>
<tr>
<td>Felt scared to be in public</td>
<td>OR 1.45</td>
<td>95% CI 0.95-2.23</td>
<td>OR 3.90</td>
</tr>
<tr>
<td>Verbally harassed</td>
<td>OR 2.14</td>
<td>95% CI 1.49-3.08***</td>
<td>OR 2.44</td>
</tr>
<tr>
<td>Blackmailed</td>
<td>OR 1.60</td>
<td>95% CI 1.10-2.33</td>
<td>OR 3.08</td>
</tr>
<tr>
<td>Physically hurt</td>
<td>OR 2.80</td>
<td>95% CI 1.78-4.41***</td>
<td>OR 2.11</td>
</tr>
<tr>
<td>Forced to have sex</td>
<td>OR 1.48</td>
<td>95% CI 0.98-2.23</td>
<td>OR 2.47</td>
</tr>
</tbody>
</table>

Conclusions: Depression among MSM was found to be prevalent in these three West African nations and strongly linked to experiences or perceptions of sexual behavior stigma. Extensive efforts are needed to scale up mental health interventions in the African context, and reducing or mitigating stigma is a necessary step to improving mental health outcomes for these men.
This is shown in the case of a woman living with HIV following ARV treatment, mar- ried and accused of "voluntary sexual transmission of HIV" to two men she had consensual sexual relations with. The legal recourse did not come from the two men in question but from the police. It was therefore, in our view, a serophobia campaign wrapped into a trial for adultery in which the husband was secondarily charged with willful transmission of HIV to his wife. Both husband and wife were victims of stigmatization and discriminatory social representations from the police, the public prosecutor and the media.

Methods: Thanks to a watch on people living with HIV (PLHIV) human rights' viola- tions, the ALCS became aware of this case and opted for a strategy of urgent inter- vention.

3 advocacy axes were defined:
• A media campaign to act against serophobia
• Awareness raising among police officers
• Preparation of an advocacy strategy with three human rights lawyers: it was articu- lated on the constitutional bases that prohibit discrimination, the national response strategies and the substantive defects detected in reports from the judicial police.

Results: the woman was discharged. This jurisprudence will be used to affect future legal situations. The prefect of police of the city of Tangier organized a meeting at the police headquarters where were invited all heads of police services in the region and during which we outlined the axes of the national response strategies, as well as the main axes of our advocacy against discrimination and stigmatization of key populations and PLHIV.

Conclusions: We need to strengthen an approach based on rights and reinforce the skills of officials in the Ministry of Health to communicate on the national HIV strat- egy to other departments. A specific advocacy targeting police officers, prosecutors, and judges is also necessary.

THPED401
THE ECONOMIC COST OF HOMOPHOBIA IN LOW- AND MIDDLE-INCOME COUNTRIES
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Background: Despite noticeable progress in the inclusion of gay men and other men who have sex with men (MSM) in society, homophobia, stigma and discrimination are still largely prevalent. This discrimination based on sexual orientation has a cost: unemployment, denied promotion, poor mental health, suicide, and vulnerability to HIV infection. The objective of this study is to develop and present a model for estimating the economic cost of homophobia in all low and middle-income coun- tries (LMIC).

Methods: We estimated the productivity and health-related costs of homophobia. The productivity cost is represented by the earnings differential between gay men and their heterosexual counterparts. The health-related cost is represented by the value of life-year lost due to homophobia. We calibrated the model for 162 coun- tries by developing a Homophobic Climate Index that takes into account both the institutional homophobia, characterised by the laws and legislations recognising, protecting or criminalising homosexuality, and the social homophobia, represented by the level of acceptance and justifiability of homosexuality. The cost of homopho- bia has been estimated for each country with a lower and an upper bound, where the population of gay men and other MSM represents 1% or 3% of the male (15-64) population respectively.

Results: Our results show that for all LMIC countries, the cost of homophobia rang- es between US$ 30.8 - 92.3 billion per year, representing 0.12-0.37% of GDP. More importantly, the cost has a nonlinear progression; it increases disproportio- nately with higher homophobia. As such, the economic cost of homophobia among the bottom ten most homophobic countries reaches 0.19% - 0.58% of GDP, four times the share in the top ten most inclusive LMIC countries. Latin America is the region where the cost of homophobia represents the lowest share of GDP (0.05-0.16%)

Conclusions: Homophobia is a human tragedy and takes lives. The cost is particu- larly high in low and middle-income countries. Such results highlight the importance of fighting against discrimination promoting inclusive policies for sexual minorities, particularly among low and middle-income countries as an efficient engine of eco- nomic and social development.

THPED402
MOVING FROM INSULT TO INCLUSION: HOMOPHOBIA AND TRANSPHOBIA IN ASIA-PACIFIC EDUCATIONAL INSTITUTIONS
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Presenting author email: x.hospitali@unesco.org

Background: LGBT young people are globally at increased risk of self-inflicted vio- lence including suicide, often as a consequence of harassment and exclusion experi- enced in schools and other settings. Homophobia and transphobia has also been as- sociated with sexual and substance use behaviours that increase the risk of acquir- ing HIV infection. This study is the first to assess the prevalence, types and impact of violence among LGBT students in Asia-Pacific, wellbeing outcomes impacting on HIV vulnerability, and prevention/response mechanisms

Methods: Systematic analysis of >500 published/unpublished reports, peer-re- viewed literature, media reports and programme evaluations from 40 countries in Asia-Pacific, as well as direct input from over 400 key stakeholders in the region. Results were validated at a regional consultation with >100 civil society, government and academic partners from 15 countries.

Results: The majority of LGBT students report being bullied, up to 80% in South Korea, and have higher rates than non-LGBT peers. 10 countries documented insti- tutional discrimination and exclusion, including misrepresentation in textbooks/ curricula, and gender-specific regulations/facilities. Gender non-conforming youth, including third gender and transgender persons, report higher levels of peer victimization and school teacher victimization in India, Nepal, New Zealand and Vietnam. Help-seeking is in- frequent; 68% of Thai victims hadn’t told anyone, 1/4 of whom said “nothing would happen even if someone were told.” 71% of bullied same-sex attracted and gender questioning (SSAGQ) Japanese boys reported anxiety, and 13% depression, while 21% of bullied Australian SSAGQ has skipped school, and 24% had drops in marks. Indonesia, Mongolia, Philippines and Viet Nam studies found associations between self-stigma and risk behaviours impacting on HIV transmission. Only 2 countries address SOGIE-based bullying in national policy, 5 mainstream SOGIE in national curriculum, 1 institutionalizes SOGIE-inclusive pre-service education at-scale, and 3 have extensive links to counselling/health services.

Conclusions: High levels of verbal, physical and sexual harassment, abuse and vio- lence are experienced by LGBT young people in Asia Pacific schools, having a toxic impact on mental health and educational performance and achievement - with po- tential lifelong impacts on employment options and economic earning potential. Prevention and response mechanisms are woefully inadequate and far from the SDG principle to “leave no one behind”.

THPED403
PATH ANALYSIS OF THE INFLUENCE OF TRANSGENDER IDENTITY STIGMA AND HIV-RELATED STIGMA ON DEPRESSION AND LIFE SATISFACTION AMONG HURAS/TRANSGENDER WOMEN IN INDIA
V. Chakrapani1,2, M. Shunmugam1, M. Sivasubramaniam1, M. Samuel1
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Background: Limited empirical studies are available on the influence of multiple stigmas on the mental health and well-being of transgender women (TGW) in India. We examined the influence of transgender identity stigma (TGS) and HIV-related stigma (HIVS) on depression and life satisfaction among TGW in India. We hypothe- sized that resilient coping and social support would mediate the relationship be- tween TGS/HIVS on depression and life satisfaction (See the diagram).

Methods: We administered structured survey questionnaire among 300 hijras/TGW recruited through community agencies from 3 urban (Mumbai, Delhi and Kolkata) and 3 rural (Sangi, Kanguepumur and Kumbakonam) sites. Except TGS scale, stan- dardised scales were used for collecting data on the study variables. We conducted path analysis using IBM SPSS Amos-21 and assessed the significance of the total, direct, and indirect pathways through bootstrap confidence intervals.

Results: TGS had a significant total effect on depression and life satisfaction, but HIVS did not. Similarly, TGS (but not HIVS) had significant direct effects on social support and resilient coping, and both social support and resilient coping indepen- dently had significant direct effects on depression and life satisfaction. Social support mediated the effect of both TGS and HIVS on depression and life satisfac- tion, resilient coping mediated the effect of only TGS, not HIVS.

Conclusions: Our findings indicate the key role of TGS on depression and life satis- faction among TGW, and the mechanisms by which TGS might exert its effect. The findings have implications for inclusion of multi-level stigma reduction programmes to promote the mental health and well-being of TGW in India.
Background: Criminalization and stigmatization of homosexuality may have important effects on healthcare engagement and disease incidence among men who have sex with men (MSM) in sub-Saharan Africa (SSA). Understanding these effects can inform interventions to improve health for MSM. This study assesses shared patterns and predictors of stigma and whether a composite measure of stigma is associated with increased HIV prevalence, sexually transmitted infection (STI) prevalence, STI incidence, and suicidal ideation among Nigerian MSM.

Methods: The Trust study is a prospective cohort study of Nigerian MSM using respondent driven sampling in Nigeria that started in 2013. Socio-demographic characteristics, suicidal ideation, stigma, HIV and STI status at enrollment and STI incidence were added and the analysis was clustered by city.

Results: Three stigma classes of low, medium, and high emerged (see Table) with increased HIV prevalence, sexually transmitted infection (STI) prevalence, STI incidence, and suicidal ideation among Nigerian MSM.

THPED045
EXPERIENCES OF STIGMA AND DISCRIMINATION AMONG LESBIAN, GAY, BISEXUAL AND TRANSGENDER YOUNG PEOPLE IN KINGSTON, JAMAICA

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Background: In Jamaica homosexuality is criminalized, and there is reported violence targeting lesbian, gay, bisexual and transgender (LGBT) persons. Young gay, bisexual and other men who have sex with men in Jamaica have HIV rates of 28%—the highest in the Caribbean. Stigma and discrimination elevate exposure to HIV and reduce access to HIV prevention. Scant research has explored the lived experiences of LGBT youth in Jamaica. We explored stigma, discrimination and coping among LGBT youth in Kingston, Jamaica.

Methods: We conducted individual semi-structured interviews with young (18-29 years old) gay/bisexual men (n=20), transgender women (n=20), lesbian/bisexual women (n=20), and informants working with LGBT people (n=13) in Kingston, Jamaica. We also held three focus groups with young gay/bisexual men (n=10), transgender women (n=8), and lesbian/bisexual women (n=6) in Kingston. We digitally recorded and transcribed verbatim interviews and focus groups. We applied narrative thematic analytic techniques to analyze themes in the data.

Results: Participant narratives revealed stigma and discrimination targeting LGBT youth in Jamaica spanned interpersonal (family, friends), community (religion, media), and structural (healthcare, laws, police, housing, employment) facets of life. Stigma and discrimination threatened health and wellbeing, with impacts felt at interpersonal (reduced self-esteem, fear, isolation, substance use) and structural (limited housing and employment access) domains. Participants discussed experiences of verbal, physical, and sexual violence (including ‘corrective rape’) directed towards LGBT persons. Family rejection and employment barriers contributed to high rates of homelessness, poverty, and engagement in survival sex work. Violence perpetuated by police, community and clients converged with poverty and stigma to increase exposure to HIV. Healthcare provider stigma limited access to HIV prevention, treatment, care and support. Stigma was exacerbated for lower socio-economic status and gender non-conforming youth. Coping strategies included LGBT support networks, community building, and advocacy.

Conclusions: Findings highlight stigma and discrimination contribute to precarious living for LGBT young people in Jamaica. Stigma targeting LGBT people limits access to health care, housing, employment, justice, and HIV prevention services. These structural vulnerabilities elevate exposure to HIV, violence, and mental health challenges. Interventions are required to address the complexity of social and institutional exclusion experienced by LGBT youth in Jamaica.

THPED046
EXPERIENCES OF STIGMA IN A SAMPLE OF HIV-POSITIVE GHANAIAN MEN WHO HAVE SEX WITH MEN (MSM): A QUALITATIVE STUDY

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Background: In Ghana, men who have sex with men (MSM) bear a high burden of the HIV epidemic. In addition, same-sex sexual practices and HIV are highly stigmatized. Yet, there is limited knowledge about experiences of stigma as a result of MSM identity and/or HIV status in this sub-population. This qualitative study explored various experiences of HIV- and sexual identity-related stigma and the impacts of ‘felt’ and ‘enacted’ stigma on Ghanaians living with HIV.

Methods: Between May and July 2015, in-depth, semi-structured interviews were conducted with 30 MSM living with HIV in Accra, Ghana. Participants were recruited through key informants and snowball sampling. Eligibility criteria for the study were: (1) birth-assigned male sex, (2) ages 18 years or older, (3) HIV-positive status, and (4) history of oral or anal sex with another male. Following informed consent, interviews were conducted in a private office at a local NGO. Interviews were transcribed verbatim and data was analyzed using an open and axial coding approach with qualitative data analysis software (NVivo 10).

Conclusions: Using novel methods, this analysis revealed that stigma is pervasive among Nigerian MSM, particularly among those who were more open about their sexuality, and is associated with increased risk of HIV, STIs, and suicidal ideation, suggesting a need to address stigma in strategies to improve MSM engagement with HIV prevention and the HIV Care Continuum.

[Path analysis: Influence of HIV-related stigma and TG stigma on Depression and Life Satisfaction]
Results: The average age of participants was 29.1 years (S.D. = 7.7) and more than half (N=16, 53%) self-identified as gay/homosexual. The results demonstrated that: 1) participants had experienced stigma related to HIV- and/or MSM- status from family, friends, community members, and clinical staff and in clinical, community, and workplace setting, 2) stigma from family and friends were mainly tied to known and perceived sexual orientation and gender expression while stigma from clinical staff were tied to HIV status, and; 3) experience of stigma resulted in some participants’ reluctance to seek HIV-related medical services, avoid social settings, lose employment, and internalize negative messages regarding HIV and homosexuality.

Conclusions: Anticipation of or experiences with stigma might dissuade Ghanaian MSM from participating in ongoing HIV response efforts. Providing sensitivity training to healthcare providers and public campaigns to discourage HIV- and MSM-related stigma may help remedy this problem. Devising innovative strategies to combat stigma on basis of sexual orientation and HIV status might help reduce disparity in HIV and increase health-seeking behavior among MSM populations in Ghana.

THPED407
COMMUNITY MOBILIZATION AND ORGANIZING FOR PEOPLE WHO USE DRUGS IN UGANDA

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Background: Uganda Harm Reduction Network (UHRN) is a youth-led drug user network established in 2008 to respond to drug use in Uganda. The network advocates for practical interventions aimed at supporting and addressing issues of men and women who use drugs. The network also seeks to provide a national platform for health and policy programs that promote good practices and advocate for a supportive environment for the adoption, implementation and expansion of harm reduction programs for people who use drugs (PWUDs) in Uganda.

Description: UHRN focuses on community mobilization through outreaches, advocacy for human rights protection for drug users and drug policy reform, call for donor support for HIV-related harm reduction services, sustainable livelihood programs and advocacy for the inclusion and adoption of comprehensive harm reduction package such as: Needle and Syringe Exchange programmes (NSE), Opioid Substitution Therapy (OST) and other drug dependence treatments (detox and non coercive rehab), HIV prevention, (HCT), Antiretroviral therapy, Prevention and treatment of STIs, Condom programmes for drug users and their partners, Targeted education and communication (IEC) for PWUDs and other partners, Vaccination and diagnosis and treatment of viral hepatitis and Prevention, diagnosis and treatment of TB. Conducted 14 HCTs in partnership with MARPI Mulago, and out of the HCT done 280 drug users were found positive, Conducted 8 Community dialogues on HIV and SRHR targeting drug users, Conducted 2 community meetings with police officers and drug users, Reached 5,918 drug users have been reached with HIV/AIDS and TB information, out of these 369 are injecting drug users. 27 PWUDs referred to Butabika hospital for mental and psychotherapy treatment, Procured 91,210 pieces of male condoms procured and distributed to drug users, 721 brochures with health tips and information about UHRN were disseminated to the community targeting drug users.

Lessons learned: Working as a collective network allowed for strong collaboration and strengthened the work of the group, beyond what individual organisations may have achieved.

Conclusions/Next steps: Conduct massive mobilization of drug users to create awareness and demand for quality and non discriminatory care, right to information and right based services delivery. Build PWUDs capacity and to resist violation and seek legal redress.

THPED408
SOCIAL COHESION, HIV STIGMA AND HIV/STI OUTCOMES AMONG FEMALE SEX WORKERS LIVING WITH HIV IN THE DOMINICAN REPUBLIC

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Background: Social cohesion has been shown to be an effective strategy to improve consistent condom use (CCU) and reduce HIV/STI risk among female sex workers (FSW). However, these relationships have not been studied among FSW living with HIV for whom limited interventions have been developed to date. We assessed the association between social cohesion, CCU and STI among FSW living with HIV and the potential mediating effect of HIV and sex work stigma in this association.

Methods: Using data from the Abriendo Puertas cohort (n=268) of FSW living with HIV in the Dominican Republic, we conducted multivariate logistic regression and we fit three structural equation models (SEM) to further examine these pathways. Models 1 and 2 separately tested HIV and sex work stigma as pathways between social cohesion and CCU with clients and steady partners. Model 3 included HIV and sex work stigma and an interaction term to test their layered effect.

Results: Logistic regression demonstrated a statistically significant relationship between social cohesion and CCU with clients (AOR = 1.65, CI: 1.11 - 2.45) and STIs (AOR: 3.76, CI: 1.159 - 12.162). In SEM, we found that in model 1, social cohesion was associated with HIV stigma and with CCU with clients, but not with CCU with steady partners. HIV stigma was a significant pathway between social cohesion and CCU with clients and steady partners, pointing to a mediating effect. In model 2, social cohesion was associated with CCU with clients but not with steady partners; and cohesion was not associated with sex work stigma, indicating no mediating effect. In model 3 there were no significant associations except for one between social cohesion and CCU with clients, with no evidence of a layered mediating effect.

Conclusions: Findings indicate that social cohesion has a significant protective effect on CCU and STIs and should be promoted among FSW living with HIV. Findings also indicate that HIV stigma mediates the effect of social cohesion on CCU with clients, highlighting the critical need to address HIV stigma within the context of comprehensive, community-based approaches to improve HIV/STI outcomes among FSW living with HIV.

THPED409
SEX WORK IN TIMOR-LEASE: NAVIGATING SOCIAL, CULTURAL AND LEGAL IMPEDEMENTS TO A RIGHTS-BASED HIV/AIDS RESPONSE

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Background: Timor-Leste is a young, low-income country in Southeast Asian with a population of approximately 1.2 million people. As in many contexts, sex work in Timor-Leste occupies a delicate social, cultural and legal space which can be an impediment to sound human rights-based public health responses for female sex workers (FSW). As part of a national size estimation of key populations at risk of HIV STIs in Timor-Leste, this qualitative study explored the nature of these structural factors and their interplay with the implementation of HIV/STI programs for FSW.

Methods: Drawing on ethnographic approaches, semi-structured interviews were undertaken using field notes, including recording of verbatim quotes, with 24 FSW and relevant secondary informants across Timor-Leste. Interviews covered the legal, cultural and social context for sex workers. Data were analysed with involvement of the third author (a local researcher well-connected to the populations) using an inductive thematic analysis approach where common themes and discrepant cases were coded with attention to the participants’ reported experiences and key events.

Results: While experiences varied across participants and districts, many FSW reported family- and community-level stigma, with ‘shame’ and loss of dignity often associated with sex work. In some districts, tara bandu (lit: ‘to place a ban’), a form of traditional law used to regulate ‘undesirable’ behaviours, had reportedly turned sex work further underground. One particular tara bandu (originally instated to protect women from discrimination and/or sexual abuse) had reportedly been applied to sex work, with social isolation and heavy financial penalties imposed on FSW. Despite the semi-legal status of sex work in Timor-Leste, informants in urbanised settings reported high levels of persecution from law enforcement.

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THPED410
WHO’S AFRAID OF THE HOMOSEXUAL? HIV-RELATED MISCONCEPTIONS IN THE LEbanese CONtext

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Background: This research was designed to fill a serious information gap in advocacy work relating to sexual and gender rights in Lebanon. So far advocacy in the field has been localized and based on individual incidents, and has not expanded to include Lebanese institutions and society at large. This research aims to provide critical and previously unavailable information by measuring and qualifying attitudes towards sexual and gender rights in Lebanon through surveying key constituencies and communities as well as the public at large.

Methods: The project takes the form of eight surveys of key stakeholder sectors with particular relevance to the status and future of gender and sexual rights in Lebanon. These include: high school teachers, health professionals, legal experts, human resource specialists, political party officials, religious leaders, media, and security. More specifically, we look at both quantitative and qualitative data collected among 340 professionals from those key stakeholder sectors in relation to misconceptions surrounding homosexuality, among which the assumption that HIV infections are confined to the gay community, as well as an evaluation of the degree of stigma associated with HIV infection.

Results: Results show that the misconception that “most homosexuals have HIV/AIDS” varied from 37% for legal professionals and 34% for political leaders to 7% for the media. A significant proportion of respondents remained undecided, ranging from 33% for health professionals to 47% for political leaders. This suggests that the “movable middle” constitutes an important proportion of responses which could be capitalized on in further advocacy efforts. In addition, follow-up showed, for instance, that a shocking 83% of respondents working in the medical field believed that there was a link between homosexuality and transmittable illnesses, citing “homosexuals are usually promiscuous”.

Conclusions: This study aims to ultimately provide an accurate and well-researched basis for future advocacy efforts, specifically elucidating where efforts should be most concentrated given the greater socio-political milieu. Without this information, current and subsequent advocacy campaigns will not yield optimal results as key questions about the exact nature and location of challenges and opportunities are still vague and disputed.

THPED411
THE IMPORtANCE OF MEASURING AND ADDRESSING ANTICIPATED STIGMA AND DISCRIMINATION: ASSOCIATIONS WITH SEEKING GENERAL AND HIV-SPECIFIC HEALTH SERVICES AMONG MALE AND FEMALE SEX WORKERS IN KENYA

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Background: HIV-related stigma and discrimination (S&D) affects healthcare seeking behavior. In response, the USAID-and PEPFAR-funded Health Policy Project collaborated with four civil society organizations, the National AIDS & STI Program, the Kenya Medical Research Institute, and the University of Nairobi to conduct a cross-sectional study measuring the prevalence of different types of stigma and its relationship to health seeking behavior among male and female sex workers (MSW/FSW) in 2015.

Methods: A modified respondent-driven sampling process resulted in a snowball sample of 497 FSW and 232 MSW across four sites. Anticipated stigma and its relationship to health seeking was assessed through direct questions, as well as through multivariate logistic regressions to determine whether MSW/FSW who anticipated different types of stigma at least once in the past 12 months were more likely to delay or avoid seeking HIV-related services while controlling for other variables, including self-reported HIV status.

Results: Significant proportions of MSW and FSW reported that they avoided or delayed needed health services in the past 12 months due to anticipated stigma (table 1). FSW anticipating verbal (OR 2.43, p-value=0.027), physical (OR 2.05, p-value=0.045), or sexual (OR 2.56, p-value=0.003) manifestations of stigma were more likely to delay seeking needed HIV-related services than FSW who did not. MSW anticipating sexual (OR 2.33, p-value=0.022), physical (OR 2.23, p-value=0.068), or housing (OR 2.21, p-value=0.05) stigma were more likely to avoid or delay needed HIV-related services. Both FSW (OR 2.62, p-value=0.019) and MSW (OR 2.85, p-value=0.039) anticipating health worker stigma were significantly more likely to report complete avoidance of needed HIV-related services.

Table 1: Avoided/delayed services in the last 12 months due to fear of... MSW FSW

<table>
<thead>
<tr>
<th>Stigma Type</th>
<th>MSW</th>
<th>FSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure of selling sex</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td>Disclosure of having sex with men</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Stigmatizing treatment at health facility for selling sex</td>
<td>48%</td>
<td>65%</td>
</tr>
<tr>
<td>Stigmatizing treatment at health facility for being MSM</td>
<td>55%</td>
<td>N/A</td>
</tr>
<tr>
<td>Being asked to be tested for HIV or tested without consent</td>
<td>25%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Conclusions: Anticipated stigma can affect willingness to utilize health services and undermine the HIV response. Measuring different types of stigma and their effects is important for designing targeted stigma-reduction programs.

THPED412
SOCIAL SUPPORT AND RESILIENT COPING AS MEDIATORS OF THE IMPACT OF SEXUAL MINORITY STIGMA ON MENTAL HEALTH: EVIDENCE FOR A PSYCHOLOGICAL MEDIATION FRAMEWORK

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Background: Few studies have assessed how sexual minority stigma affects the mental health of men who have sex with men (MSM) and transgender women (TGW) in India, populations with a high HIV burden. We tested whether social support and coping act as mediators of the effect of sexual minority stigma on mental health as informed by Hatzenbuehler’s Psychological Mediation Framework. Methods: We conducted a cross-sectional survey among MSM (n=300) and TGW (n=300) recruited from 3 urban (Mumbai, Delhi, and Kolkata) and 3 rural (Sangli, Kancheepuram and Kumbakonam) sites in India. Standardised scales were used to measure depression (outcome variable), MSM stigma/Transgender identity stigma (predictor variables), and social support and resilient coping (tested as moderators and parallel mediators). The mediation and moderation models were tested separately for MSM and TGW, using Hayes’ PROCESS macro in SPSS.

Results: Participants’ mean age was 29.7 years (SD 8.1). MSM stigma and transgender identity stigma were significant predictors (significant total and direct effects) of depression, as were social support and resilient coping. Among MSM and TGW, both social support and resilient coping mediated (i.e., significant specific indirect effects) the effect of stigma on depression, supporting the Psychological Mediation Framework. We did not find evidence for the moderating role of social support and resilient coping on the effect of sexual minority stigma on depression.

Conclusions: We found empirical evidence for the mediating role of social support and resilient coping on the impact of sexual minority stigma on depression among MSM and TGW. In addition to stigma reduction interventions at the societal level, future interventions should focus on improving social support and promoting resilience among MSM and transgender women.
THP0413
STIGMA, DISCRIMINATION AND HEALTH SEEKING AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN BOTSWANA
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Background: Interventions to prevent the spread of HIV and other types of support target the heterosexual population with very little targeting sexual minorities such as men who have sex with other men. Due to criminalization and its concomitant hostility, the activities of such sexual minorities have remained secret and/or unreported, and subject to stigma, ostracism/alienation and contempt.

Methods: This paper utilizes Botswana data derived from a 2013 SADC Funded Sexual Minorities cross sectional survey in three countries, namely Zimbabwe, Botswana and Zambia, to explore the sexual and HIV risk knowledge, attitudes and practices of MSM.

Data were analyzed in SPSS, using univariate and bivariate techniques and descriptive statistics. Some qualitative data were also used to expedite quantitative findings.

Results: The results show that while only 4.2 percent indicated that they felt afraid to seek health care due to their sexual orientation, over a fifth (22.1%) were denied health care because of their sexual orientation; and over half (57%) experienced either verbal or physical abuse and 10.8% experienced police or legal discrimination, and 14.5% experienced blackmail because of their sexual orientation. Over a quarter (28.1%) felt that healthcare workers were not capable to meet their health seeking needs because of their sexual orientation.

Conclusions: Although a small proportion reported fear of accessing healthcare services, a larger proportion were either denied access, experienced resentment or were exposed to physical abuse or harassment after disclosing their sexual orientation. This indicates the need to promote equal access to healthcare services for sexual minorities as for the heterosexual community.

THP0414
CONNECTION BETWEEN SEXUAL BEHAVIOURS OF HIV-POSITIVE MSM AND DISCRIMINATION THEY FACE FROM OTHER MSM: FINDINGS FROM A QUALITATIVE FORMATIVE RESEARCH IN TAMIL NADU, INDIA
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Background: Literature has documented that HIV-positive MSM (HIV+MSM) who have experienced discrimination might engage in risky sex. However, limited information is available from developing countries on how sexual behaviours of HIV+MSM as perceived by other MSM could lead to discrimination. As part of a qualitative formative research to refine a theory-based sexual risk reduction intervention for HIV+MSM, we explored the connections between the perceptions of HIV-negative/unknown status MSM on the sexual behaviours of HIV+MSM and their discriminatory attitudes/behaviours towards HIV+MSM.

Methods: In 2015, we conducted focus groups and in-depth interviews with 34 MSM (16 HIV+MSM; 18 HIV-negative/unknown status MSM) in urban/rural Tamil Nadu, India. Narrative thematic analysis was conducted using NVivo-10.

Results: HIV-negative MSM did not trust that HIV+MSM would be using condoms and opined that HIV+MSM should not be sexually active, should not come to cruising/sex work sites, or should engage only in non-penetrative sex. Outing the HIV status of MSM to potential sexual partners (including clients of sex work) was not seen as discrimination, but justified as a necessary act to prevent others from getting HIV. HIV-negative MSM reported distancing oneself from HIV+MSM, treating them as ‘untouchables’ in community settings, and even blackmailing them to reveal their HIV status to their partners if they do not stop having sex. HIV+MSM seemed to have internalised these negative attitudes among HIV-negative MSM about the stigmatisation of HIV+MSM and reported being abstinent, not engaging in sex work, reduction of the number of sexual partners, and always using condoms during sex. However, HIV-positive MSM did report that they have at least a few supportive MSM friends and steady partners.

Conclusions: Lack of understanding about the sexual rights of HIV+MSM have led HIV-negative MSM to deny fulfilling sexual life for HIV+MSM, and abstinence as a pre-requisite for getting support from other MSM. Sexual risk reduction interventions among HIV+MSM need to take into account the link between sexual behavio
Fewer women reported experiencing rejection by a sexual partner (18% vs 33% of men, p<0.001). More transwomen reported worrying about verbal harassment (30%, 8/21 vs 28%, 7/45) and little support following disclosure (53%, 8/15 of transwomen reported being treated differently to other patients at their GP (33%, 8/15) cf 15% (49/318) of other women; almost half (7/16) reported hearing negative comments from a healthcare worker about their HIV status or PLHIV compared to 17% (54/324) of other women.

Conclusions: Women feel less support in healthcare settings with regard to their HIV, and transwomen experience disproportionate levels of discrimination. Interventions to increase sensitivity and support within the healthcare and faith settings are advisable.

**THPED417**
A QUALITATIVE STUDY OF PREP STIGMA, PRIDE AND PREDICTED COMMUNITY BENEFITS AMONG MSM AND MALE SEX WORKERS

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**Background:** PreP implementation raises questions about potential impacts on stigma, attitudes, and norms in MSM communities. Media reports on “Truvada whores” suggest some negative attitudes about PreP among MSM, and a popular view that PreP users are irresponsible or promiscuous. We interviewed MSM and male sex workers to explore attitudes toward PreP, awareness of PreP stigma within the MSM community, and expectations of how PreP may change community norms and HIV-related stigma.

**Methods:** We conducted in-depth interviews with 31 MSM and 25 male sex workers in Providence, RI, in 2013-14, building on results of 8 prior focus groups (n=38). Participants were HIV-negative or of unknown status and reported recent unprotected anal sex with an HIV-positive or unknown-status partner. Interviewers provided information about PreP and explored PreP knowledge, acceptability, predictors of use and predicted community benefits.

**Results:** Knowledge of PreP was low, but some participants had heard of stigma associated with PreP. When informed of PreP, some MSM expressed stigma-related concerns about using PreP, including fears of seeming promiscuous, HIV-positive, or ill. Several MSM in primary partnerships, including sex workers with female partners, noted that PreP use would imply infidelity; for these men, the need for covert use made daily PreP less acceptable. But most participants reported low perceived stigma, or that stigma would not impede their own use. Some described PreP as a potential catalyst for reducing HIV stigma among MSM, and even suggested that PreP would promote community inclusion of HIV-positive individuals and increase MSM community empowerment. Several sex workers also viewed PreP as a lever for personal change, suggesting that PreP use is proof of increased self-worth and can provide a foundation for other health behaviors.

**Conclusions:** Strategies are needed to help PreP users educate partners, family, and friends, to reduce potential misconceptions driving PreP stigmatization. But both MSM and male sex workers express positive expectations of PreP as an agent of community and individual empowerment. PreP outreach efforts and messaging should leverage these expectations to maximize PreP acceptability.

**PUNITIVE LAWS AND ENFORCEMENT PRACTICES REGARDING HIV TRANSMISSION, DRUG USE, SEX WORK, SEX BETWEEN MEN, SODOMY AND/OR SEX OUTSIDE OF MARRIAGE**

**THPED419**
# REPEAL 19A: A SUCCESSFUL CAMPAIGN AGAINST THE CRIMINALISATION OF HIV IN VICTORIA, AUSTRALIA

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**Background:** The criminalisation of HIV transmission, exposure and non-disclosure persists in most parts of the world, despite widespread criticism of its impact on public health and human rights. HIV-specific criminal laws have been particularly criticised by international agencies including UNAIDS and the Global Commission on HIV and the Law.

**Description:** The #Repeal19A campaign targeted Australia’s only HIV-specific criminal offence, section 19A of the Crimes Act 1958 in the state of Victoria, as part of an advocacy strategy developed during the lead-up to the AIDS 2014 International AIDS Conference in Melbourne. We constructed a compelling case for repeal of the law, drawing together legal, public health and human rights arguments; brought together a coalition of supportive agencies from the HIV, LGBTI and human rights sectors; used the media to build a community consensus for change; and advocated with the leadership of the major political parties in the period leading up to and during the conference. As a consequence of commitments given during the conference, section 19A was repealed by an unanimous vote of the Victorian Parliament in May 2015.

**Lessons learned:** The repeal of section 19A is a major part of the legacy of hosting AIDS 2014 in Melbourne. Our campaign showed that a targeted and well-researched advocacy case can be developed in a complex area of public policy to build a compelling narrative for political change. We increased awareness of the issue of criminalisation among the gay community and obtained a clear commitment from government to ensure HIV is treated as a public health issue.

**Conclusions/Next steps:** The criminalisation of HIV has not ended in Victoria, however the #Repeal19A campaign delivered commitments from both sides of politics to an evidence-based approach to HIV policy that prioritises public health and human rights over criminal sanctions. We continue to press for improved policy responses, including prosecutorial guidelines to ensure that criminal and public health laws work more effectively together.
THPED420
HIV CRIMINALIZATION IN CALIFORNIA: A COMPREHENSIVE ASSESSMENT OF ENFORCEMENT, EQUITY AND EFFECTIVENESS OF CRIMINAL LAWS TARGETING PEOPLE LIVING WITH HIV
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Background: More than two-thirds of states and territories across the United States have HIV criminal laws. Such laws exacerbate HIV stigma and disincen tivize individu als from knowing their HIV status. While U.S. federal agencies have called for legal reform, ensuring these laws are consistent with modern science and public health, no U.S.-based research has previously analyzed comprehensive enforcement data representing a population-based sample. This presentation will review California data, including updated results from a previous study, highlighting new findings on disparities, correlation with new infections, recidivism, and changes over time.

Methods: Researchers obtained California Department of Justice CDRI (Criminal Offender Record Information) data, which record contacts with the criminal justice system, from arrest through sentencing. The data were cleaned and coded to assess the extent of the laws’ enforcement over time, geographically, and by race and sex.

The data were investigated for evidence of disproportionate representation of specific subgroups. All data were analyzed using Stata v13.1. Inferential statistics were used to test differences between subgroups.

Results: 800 people had contact with the California criminal system from 1988 to June 2014 related to their HIV. 95% of all incidents impacted people suspected of solicitation, which does not require sexual contact to prosecute. Black people and Latino/as made up two-thirds (67%) of the people who had HIV-related criminal contact, but just half (51%) of California’s PLWH. Women made up 43% of those who had HIV incidents, but less than 13% of California’s PLWH. White men were significantly less likely than others to be charged. Nearly every charged incident resulted in conviction, and 91% of convictions were sentenced to incarceration for an average of over two years. 48% of HIV-based sentence enhancements for sex offenses were for oral copulation.

Conclusions: Almost all HIV prosecutions involved conduct that poses low or negligible risks of transmission. California HIV criminal laws have been disproportionately enforced against women and people of color. These analyses demonstrate the laws’ lack of equity or effectiveness in reducing new infections, and the presentation will illustrate how criminal justice data analysis can be used to inform HIV criminalization reform efforts in other legal contexts around the world.

THPED421
HIV CRIMINALIZATION LAWS HARM OUR PATIENTS! NURSES ADVOCATE FOR AN END TO UNJUST LAWS THAT PROMOTE STIGMA AND DISPARITIES
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Background: The stigma associated with HIV remains high and fear of discrimination causes some to avoid HIV testing, disclose HIV status or access health care. In 32 US states, there are laws that criminalize HIV exposure, based on outdated and erroneous HIV risk and transmission information. These criminal laws contradict public health messages and disregard current knowledge about treatment efficacy and significantly reduced transmission potential with an undetectable HIV viral load.

Description: The Association of Nurses in AIDS Care (ANAC) advocates for public health policy grounded in evidence, human rights and the delivery of socially just health care. In 2015 ANAC issued a policy statement calling for the reform of unjust and harmful HIV criminalization statutes. Significant research on laws, health disparities and current evidence provided the basis for this policy. Included was a call for education on the negative public health consequences of HIV criminalization and its contribution to HIV related stigma and discrimination. ANAC is an affiliate of the American Nurses Association, who represents the interests of America’s 3.4 million registered nurses. They formally adopted our statement for HIV criminalization reform, in recognition of the intersection of HIV criminalization with stigma, human rights and barriers to engagement in health care was distributed nationally through both nursing organizations’ membership communications and to the national media.

Lessons learned: In the USA, nurses are consistently rated the most trusted profession and source of health information by the general public. Nurses have considerable influence in communities on health beliefs and nursing practice is guided by the Nursing Code of Ethics. Yet in a 2014 survey of nurses more than 25% were unaware of HIV criminalization laws at all and 60% were unaware of HIV exposure without transmission laws.

Conclusions/Next steps: ANAC will expand education to other nursing organizations and seek other nursing organization endorsements. Since most HIV criminalization legislation reform occurs at the state level we will engage with state nursing organizations for reform efforts. Nurses can have an influential and powerful voice as public policy advocates. Professional nursing organizations have an obligation to educate members on issues that intersect human rights and health care, such as HIV criminalization.

THPED422
“I INTENDED TO ACHIEVE SEXUAL PLEASURE NOT TO GIVE MY PARTNER HIV” - PROBLEMS WITH THE LEGAL TESTS USED TO ASSESS INTENTION IN CRIMINAL CHARGES FOR TRANSMISSION OF HIV
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Background: UNAIDS states that “any application of criminal law to HIV non-disclosure, exposure or transmission should require proof, to the applicable criminal standard, of intent to transmit HIV.”[1] The difficulty with this proposition is that “the applicable criminal law standard” varies significantly by jurisdiction, and mental culpability for HIV transmission to a sexual partner is difficult to ascertain. The HIV/AIDS Legal Centre filed an appeal in the High Court of Australia for a client convicted of intentional HIV transmission to a sexual partner. The broader aim of this case, beyond achieving a favourable outcome for the individual, was to clarify the following questions:

1. Can foresight of potential consequences be used to establish intention to achieve a specific result, being HIV transmission? and
2. How can a court assess whether a person has the requisite mental and physical intent to be charged with HIV transmission?

3. What is the relevance, if any, of lies told, or the length of the relationship, to assessing intent?

These questions have not been determined in a court at this level worldwide.


Description: The matter will be heard by the High Court of Australia in February 2016, and judgement hopefully delivered prior to the conference. Full submissions are at: http://www.hcourt.gov.au/cases/case_b69-2015

Lessons learned: Proceedings in the lower courts demonstrated that jurors and the judiciary fail to understand the reasons why people may not disclose their HIV status; including fear of abandonment, discrimination, violence, shame, embarrassment, and/or being in denial. The courts formed the view that non-disclosure in the context of an 18 month relationship amounts to intent to transmit HIV.

Conclusions/Next steps: The proceedings can be utilised by HIV advocates to progress the need for prosecutorial guidelines. Police, lawyers and the judiciary must recognise that issues around HIV transmission and intent are unique and therefore a standard criminal law approach cannot be taken. The outcome will provide guidance for lawyers on how to successfully defend HIV non-disclosure charges, reaffirming the assumption that non-disclosure equates to intentional HIV transmission.
relation between HIV-discordant partners shall potentially incur the HIV-positive partner’s criminal liability. The intention to harm is not necessary, as the awareness of exposing other persons to the risk of transmission is sufficient to constitute the offence. The offence shall still be constituted, including when the HIV-negative partner is informed of the risk and consents. The exposure to the risk may be pursued, even in the absence of an effective transmission of the virus. The prevention of sexual relations shall be understood prior to the use of a condom. The admissibility of other means of protection and, in particular, the use of antiretroviral drugs in prevention remains uncertain, for it has not yet been observed in a French trial.

Conclusions: The analysis shows the scope of the potentially objectionable acts on the basis of AIDS. Whereas the number of actual criminal prosecutions, even very morbid, and public health settings, information about nurses’ knowledge of HIV-related criminal laws and the impact of HIV criminalization on nurses’ practices is limited. Methods: This study is a secondary sub-group analysis, which fits within a larger national study on nurses’ knowledge of HIV-related criminal laws where they practiced. Data from nurses (n = 386) in California, Florida, New York and Texas was used to provide exemplars of nurses’ knowledge of HIV-related criminal laws and the impact of different HIV-related criminal law approaches on nursing practices. Results: Only 29% of nurses (n = 112) knew whether or not the state in which they practiced had a specific law regulating sexual exposure of HIV without disclosing HIV status; 13% of nurses (n = 48) felt they possessed the expertise to educate PWID about legal regulations and consequences; 21% of nurses (n = 84) understood implications of HIV-related criminal laws for their scope of practice, professional duties, and responsibilities; and 76% of nurses (n = 295) acknowledged they should acquire expertise to appropriately counsel patients about those laws. Conclusion: Lack of knowledge of HIV-related criminal laws can adversely affect the nurse-patient relationship. Nurses are at risk of losing the trust of persons living with or at risk of acquiring HIV if they do not understand this knowledge gap. The dismal number of nurses that knew whether the state where they practiced had an HIV-related criminal law emphasizes the urgent need for education interventions such as webinars, online modules and newsletters.

THPED424
NURSES’ KNOWLEDGE, ATTITUDES AND DOCUMENTATION PRACTICES IN A CONTEXT OF HIV CRIMINALIZATION: A SECONDARY SUB-GROUP ANALYSIS OF DATA FROM CALIFORNIA, FLORIDA, NEW YORK AND TEXAS NURSES
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Background: Under international legal norms, HIV criminalization is considered an overly broad use of criminal law. In the United States, at least 33 states have HIV-specific criminal laws. The content of HIV-related criminal laws varies across states and there is currently no guidance or standard for when those statutes should be applied. Current literature on HIV-related criminal laws highlights challenges for persons living with HIV (PLWH) and nurses who work with them in clinics, communities, and public health settings. Information about nurses’ knowledge of HIV-related criminal laws and the impact of HIV criminalization on nurses’ practices is limited. Methods: This study is a secondary sub-group analysis, which fits within a larger national study on nurses’ knowledge of HIV-related criminal laws where they practiced. Data from nurses (n = 386) in California, Florida, New York and Texas was used to provide exemplars of nurses’ knowledge of HIV-related criminal laws and the impact of different HIV-related criminal law approaches on nursing practices. Results: Only 29% of nurses (n = 112) knew whether or not the state in which they practiced had a specific law regulating sexual exposure of HIV without disclosing HIV status; 13% of nurses (n = 48) felt they possessed the expertise to educate PWID about legal regulations and consequences; 21% of nurses (n = 84) understood implications of HIV-related criminal laws for their scope of practice, professional duties, and responsibilities; and 76% of nurses (n = 295) acknowledged they should acquire expertise to appropriately counsel patients about those laws. Conclusion: Lack of knowledge of HIV-related criminal laws can adversely affect the nurse-patient relationship. Nurses are at risk of losing the trust of persons living with or at risk of acquiring HIV if they do not understand this knowledge gap. The dismal number of nurses that knew whether the state where they practiced had an HIV-related criminal law emphasizes the urgent need for education interventions such as webinars, online modules and newsletters.

THPED425
GENDER DIFFERENCES IN POLICING BEHAVIORS: IMPLICATIONS FOR HIV PREVENTION AMONG PERSONS WHO INJECT DRUGS (PWID) IN TIJUANA, MEXICO
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Background: Policing practices such as syringe confiscation, harassment, and extra-legal syringe-related arrests fuel HIV risk and transmission worldwide among PWID. Preliminary evidence suggests that female police are less likely to use force or to engage in abuse and harassment. Despite calls for improving gender balance in law enforcement, there is little research on gender differences in policing practices in this male-dominated profession. Our objective was to examine potential differences in policing behaviors between male and female officers that could shape the HIV risk environment among PWID in Tijuana, Mexico, where syringe possession is legal without a prescription. Methods: Baseline surveys from police officers were collected in 2015 by our national team as part of a department-wide Police Education Program (PEP) in Tijuana, Mexico. Data from all active-duty municipal police officers were analyzed. Depending on distributional assumptions, the outcomes were examined using the Pearson χ2 or Fisher exact tests. Results: To date, among 485 police officers on street patrol, 64 (13.2%) were female and 421 (86.2%) male, median age 35 (IQR: 28-39) and 36 (IQR: 31-42) respectively. Most (96.9%) male officers reported encountering syringes while on duty vs. 90.6% of female officers (P=0.03). Among officers encountering syringes on-duty, female officers reported confiscating syringes less often (60.9%) compared to male officers (77.5%; P=0.008). Female officers also reported less confrontations of PWID that lead to syringe confiscation (29.4%) compared to male officers (50.9%; P=0.03). Conclusions: These data suggest gender differences in policing practices that could moderate the uptake of HIV prevention. In particular, female police officers may serve as potential peer models. Global programs that work with police to reduce HIV vulnerability among PWID should tailor interventions to address these gender differences. These data add a public health imperative to further efforts to promote the importance of gender balance in policing across the world.

THPED426
WHAT’S THE LAW GOT TO DO WITH IT? CREATING AN ENABLING LEGAL AND POLICY ENVIRONMENT FOR YOUNG PEOPLE TO ACCESS HARM REDUCTION SERVICES IN ASIA-PACIFIC
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Background: An estimated 3.8 million people inject drugs in Asia-Pacific, the majority of whom started injecting in their late teens and early twenties, according to UNAIDS. Among persons who inject drugs (PWID) aged 15 to 35 years, over 60% are from seven countries, of which the majority of this age cohort in 12 countries have not accessed HIV testing in the last year. In recent years, the Committee on the Rights of the Child has asked States to ensure that their criminal laws do not impede access to specialized and youth-friendly harm-reduction services. This review analysed the application of this recommendation.

Methods: A systematic review of national and federal drug ordinances, laws and policies; national AIDS and national drug strategies; public health and safety codes; protocols and clinical guidelines on OST and NSP; and other laws concerning age of majority was undertaken among 38 countries and 2 territories in Asia-Pacific. Content analysis of >100 documents focused on legal minimum age requirements to access opioid substitution therapy (OST) and needle syringe programmes (NSPs), parental consent requirements, and special discretions/exemptions, and data verified with country partners. Results: Of the 40 countries and territories reviewed, only 13 countries in Asia-Pacific have laws and policies enabling independent consent for young people to access needle and syringe programmes (NSPs) and/or opiate substitution therapy (OST) programmes. Some countries/territories (Australia, Hong Kong SAR, New Zealand) apply the minor-mature principle, require specialist assessments/opinions (Australia, Indonesia) or have differential age access for OST/NSP (Myanmar, Viet Nam). A punitive legal environment exists more generally in the region, with 11 countries imposing compulsory detention, and 15 countries imposing the death penalty, on drug users. Conclusions: Policy and legislative reform is required to expand access to effective HIV and health services, including harm reduction programmes and voluntary, evidence-based treatment for drug dependence among young PWID. Countries should recognise the evolving capacity of adolescents to make decisions about their well-being, and establish guidance for health workers to understand their legal and professional obligations to enable access to effective HIV and health services, including harm reduction programmes and voluntary, evidence-based treatment for drug dependence and overdose management.
THPED427
CRIMINALIZATION OF HIV NON-DISCLOSURE: NARRATIVES FROM YOUNG MEN LIVING IN VANCOUVER, CANADA

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Background: Today's young men, especially young MSM, are a key population that are launching their sexual lives amidst evolving legal frameworks regarding HIV and a proliferation of novel advances in HIV testing and treatment (e.g., TasP, PrEP). Yet, few studies have examined how the criminalization of HIV non-disclosure, alongside evolving intervention 'landscapes', influence perceptions of HIV-related risk.

Methods: A 100-in-depth, semi-structured, individual interviews with young men ages 18-30 in Vancouver, Canada, on the topic of HIV and the criminalization of HIV non-disclosure. The current analysis describes the health and social risks that these young men associate with an HIV diagnosis in the context of Canada's current legal framework pertaining to HIV non-disclosure.

Results: An analysis revealed two dominant narratives in relation to HIV criminalization: justification and interrogation. Within the justification narrative, participants asserted that criminalization approaches could be justified because they reflect the gravity of the perceived social impacts of unknowingly acquiring HIV from a seropositive partner (e.g., status loss, discrimination, isolation). Justification narratives did not tend to be based on the perceived health implications of becoming infected as HIV was frequently described as a manageable and treatable condition, as opposed to a life-threatening disease. Interrogation narratives tended to problematize the idea of criminalizing HIV. First, these narratives emphasized how universal access to HIV prevention, treatment and care has brought HIV into the realm of a chronic - and a preventable - condition that no longer infers a 'death sentence'. Secondly, legal frameworks that criminalize people living with HIV were characterized as creating barriers to HIV testing uptake, as well as impeding access and reducing retention to care for those living with HIV. These concerns were particularly salient among participants who viewed themselves as being at 'elevated' risks for HIV, including MSM and men who inject drugs.

Conclusions: The narratives identified in our analysis identify a diversity of perspectives pertaining to the criminalization of HIV non-disclosure. They also reveal the extent to which the inclusion of young men's voices will be helpful in developing community-informed strategies for legal reform that meaningfully reflect the evolving intervention 'landscape'.

[jurisdictions with HIV-specific criminal laws]

THPED429
PUNISHING HIV: DOES RACE IMPACT SENTENCING UNDER CRIMINAL HIV EXPOSURE AND DISCLOSURE LAWS IN THE UNITED STATES?

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Background: Social movements in the United States have recently drawn attention to the racial disparities in the American criminal justice system. Studies have shown that Black heterosexual men are disproportionately convicted under at least one U.S. state’s HIV disclosure law (Michigan). These findings raise questions about how evenly American HIV-specific criminal laws are applied. However, no study has yet examined whether there are racial or gender differences in the length of criminal sentences handed out under American HIV exposure and disclosure laws.

Methods: This study compares the length of criminal sentences by race and gender under HIV-specific criminal laws in five U.S. states: Arkansas, Florida, Michigan, Missouri, and Tennessee. Data describing convictions under each state’s HIV-specific criminal law were obtained from state authorities, including state Departments of Corrections, state court administrators, and state-run sex offender registries. Additional data points were obtained from local court clerks and newspaper reports.

Results: Overall, 357 convictions were identified in the five states studied between 1990 and 2015; 307 cases were sentenced to incarceration in jail or prison while 50 were sentenced to probation. The average incarceration sentence was 83.26 months, while the average probation sentence was 44.81 months. Overall, black men were assigned longer incarceration terms (109.79 vs 73.64 months for white men) and probation sentences (55.73 vs 35.57 months). In four out of five states, black men were assigned lengthier incarceration terms (98.16 vs 38.35 months) and probation terms (46.51 vs 38 months for women). Few Black women were convicted in most states, with the exception of Florida; in that state, sentences between Black and white women were similar (27.32 vs 25.42 months for white women).

Conclusions: Overall, this study suggests that there are important racial and gender disparities in sentencing under U.S. HIV disclosure and exposure laws that mirror broader patterns in the American criminal justice system. These findings suggest advocates may wish to appeal to broader frameworks of racial injustice in their efforts to reform these laws.
Background: In 2012, the Supreme Court of Canada ruled that a person living with HIV can be prosecuted for not disclosing their HIV positive status before having sex that poses a “realistic possibility of transmission.” Despite the well-established impact of low viral load on HIV transmission risk, the Court decided that a person could be convicted of aggravated sexual assault even if they had used a condom or had an undetectable viral load.

Description: In response to a Supreme Court decision that led with scientific evidence, six distinguished Canadian HIV scientists and clinicians took ground-breaking action to advance justice by co-authoring the “Canadian consensus statement on HIV and its transmission in the context of the criminal law.” Based on a literature review, the Canadian statement was published in 2014 in a medical journal with the endorsement of more than 75 scientific experts from across the country.

Lessons learned: Because the notion of risk and the nature of the HIV infection are at the center of prosecutions, scientific experts have an important role to play to ensure that the criminal law is based on the most accurate and available scientific evidence rather than fear, ignorance and prejudice. In Canada, the consensus statement is an extremely useful tool for advocates working against unjust prosecutions. It also supports defense lawyers representing people living with HIV and scientific experts testifying in court. Some indications of a positive impact in court proceedings are emerging. Since the SCC’s 2012 ruling, at least one lower court decision has concluded, based on medical evidence, that there was no “realistic possibility of transmission” in the case of person who had condomless sex with an undetectable viral load.

Conclusions/Next steps: As demonstrated in, for example, Denmark, Switzerland or Iowa, scientific evidence can influence positive legal change. But in many other jurisdictions, people are prosecuted despite a minimal, or even non-existent, risk of HIV transmission. Unjust HIV criminalization undermines public health and human rights. Internationally, it is vital that scientists undertake joint efforts with advocates to bring science to justice.

THPED430
THE ROLE OF SCIENTIFIC EXPERTS IN COMBATTING UNJUST HIV PROSECUTIONS: A CANADIAN EXAMPLE

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Although the evidence base against HIV criminalisation is strong, evidence alone is often not enough for policy- and lawmakers who want to be seen to be doing something to impact the HIV epidemic and who may be more swayed by emotive or ‘popular’ arguments rather than implement a rational, evidence-based response.

Conclusions/Next steps: Despite a growing number of advocacy successes leading to improved legal environments for people living with HIV, much more work is required to strengthen advocacy capacity to ensure a more just, rational, evidence-informed criminal justice response to HIV that will benefit both public health and human rights.

THPED431
ADVANCING HIV JUSTICE: BUILDING MOMENTUM IN GLOBAL ADVOCACY AGAINST HIV CRIMINALISATION

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Background: HIV criminalisation impacts public health and human rights, undermining efforts to end AIDS. The unjust application of criminal law to people living with HIV based solely on their HIV status, either via HIV-specific criminal statutes, or by applying general criminal laws, is a growing, global phenomenon.

Description: A desk review of criminal proceeding reports and legal texts curated on the HIV Justice Network website as part of the research for the Advancing HIV Justice 2 report supplemented with data from GNP’s Global Criminalisation Scan and Google searches. Recently reported data so far covers March 2013-September 2015 but will be updated to July 2016.

Lessons learned: Key developments in case law and law and policy reform have taken place in numerous jurisdictions, most of which came about as a direct result of advocacy from individuals and organisations working to end the inappropriate use of the criminal law to regulate and punish people living with HIV. However, a complex picture emerges of advocacy successes and proposed laws in some of the same countries/regions of the world suggesting disparate approaches to HIV criminalisation that are sensitive to local social, cultural, epidemiological and political contexts, as well as the capacity of advocates to challenge such laws and prosecutions.

Conclusions: HIV criminalisation provisions fail to take into account best available scientific and medical recommendations and human rights principles and are likely to compromise HIV responses. This analysis supports the need for further advocacy efforts against criminalisation.

Background: In 2012, the Supreme Court of Canada ruled that a person living with HIV can be prosecuted for not disclosing their HIV positive status before having sex that poses a “realistic possibility of transmission.” Despite the well-established impact of low viral load on HIV transmission risk, the Court decided that a person could be convicted of aggravated sexual assault even if they had used a condom or had an undetectable viral load.

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Lessons learned: Because the notion of risk and the nature of the HIV infection are at the center of prosecutions, scientific experts have an important role to play to ensure that the criminal law is based on the most accurate and available scientific evidence rather than fear, ignorance and prejudice. In Canada, the consensus statement is an extremely useful tool for advocates working against unjust prosecutions. It also supports defense lawyers representing people living with HIV and scientific experts testifying in court. Some indications of a positive impact in court proceedings are emerging. Since the SCC’s 2012 ruling, at least one lower court decision has concluded, based on medical evidence, that there was no “realistic possibility of transmission” in the case of person who had condomless sex with an undetectable viral load.

Conclusions/Next steps: As demonstrated in, for example, Denmark, Switzerland or Iowa, scientific evidence can influence positive legal change. But in many other jurisdictions, people are prosecuted despite a minimal, or even non-existent, risk of HIV transmission. Unjust HIV criminalization undermines public health and human rights. Internationally, it is vital that scientists undertake joint efforts with advocates to bring science to justice.

Although the evidence base against HIV criminalisation is strong, evidence alone is often not enough for policy- and lawmakers who want to be seen to be doing something to impact the HIV epidemic and who may be more swayed by emotive or ‘popular’ arguments rather than implement a rational, evidence-based response.

Conclusions/Next steps: Despite a growing number of advocacy successes leading to improved legal environments for people living with HIV, much more work is required to strengthen advocacy capacity to ensure a more just, rational, evidence-informed criminal justice response to HIV that will benefit both public health and human rights.

THPED432
HIV CRIMINALISATION IN SUB-SAHARAN AFRICA: FAILURE TO UPHOLD SCIENTIFIC, MEDICAL AND HUMAN RIGHTS RECOMMENDATIONS

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Background: In the past 15 years, 27 sub-Saharan African countries have adopted HIV specific laws to protect the rights of PLHIV. Yet, they raise serious public health and human rights concerns, including with regard to punitive provisions that allow for overly broad criminalisation of HIV non-disclosure, exposure or transmission. In recent years, advocacy and litigation efforts against overly broad HIV criminalisation have led to change in some countries. The 2013 UNAIDS guidance note on ending overly broad HIV criminalisation provides scientific, medical and human rights evidence and arguments to analyse and challenge these problematic punitive provisions.

Methods: The study reviewed 26 HIV-specific laws in sub-Saharan Africa. HIV criminalisation provisions in these laws were analysed against six key recommendations of the UNAIDS guidance, namely:

(i) limit criminalisation to intentional HIV transmission;
(ii) no criminalisation for non-disclosure or exposure;
(iii) no criminalisation for condom use;
(iv) no criminalisation where the person has low viral load or is on effective treatment;
(v) no criminalisation when undiagnosed; and
(vi) no criminalisation in case of consent to HIV risk prior to sex (e.g. via disclosure of HIV status).

Results: Twenty four out of 26 HIV-specific laws criminalise HIV non-disclosure, exposure or transmission. Of these, only nine restrict criminalisation to cases of alleged transmission. Eight countries criminalise alleged HIV non-disclosure and twelve criminalise potential or perceived HIV exposure. Seven countries allow for criminal liability on the basis of negligence or recklessness, in spite of the recommendation to limit criminalisation to malicious intent. Only eight countries exclude criminal liability in cases involving condom use or other risk reduction methods. Seven countries have provisions that could be interpreted to bar criminal liability when a person has low viral load or is on effective HIV treatment. Finally, only seven countries limit criminal liability to people who have been previously diagnosed, and only eight countries recognise consent, via disclosure to the sexual partner, as a valid defence.

Conclusions: HIV criminalisation provisions fail to take into account best available scientific and medical recommendations and human rights principles and are likely to compromise HIV responses. This analysis supports the need for further advocacy efforts against criminalisation.
Thursday 21 July
Poster Exhibition

THPE0433
PROGRESS TO INTEGRATE HUMAN RIGHTS PRINCIPLES TO THE APPLICATION OF CRIMINAL JUSTICE TO PEOPLE LIVING WITH HIV IN SCOTLAND

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Background: From 2011 to present, HIV Scotland undertook a range of actions to improve criminal justice policy and practice as it applies to HIV in Scotland; our aim was to ensure that people living with HIV are not unfairly treated or disadvantaged within the criminal justice system in Scotland.

Description: HIV Scotland had serious concerns about the impact of criminal prosecution for HIV transmission. We identified a lack of clarity on the law in Scotland and need for more consistent decision making and transparency. We lobbied for prosecution guidance and worked with the Crown Office Procurator Fiscal (COPFS) and other NGOs to develop this in 2012. We have complimented this work by supporting partners to better respond to instances of prosecution. In addition, HIV Scotland, in partnership with Police Scotland and key stakeholders, developed a Standard Operating Procedure for police officers who may be required to investigate prosecution guidance and community action to push for change. Third sector agencies are well placed to bridge this divide.

Conclusions/Next steps:
- We will work with the COPFS to annually review the application of the guidance, and ensure it reflects the latest evidence about HIV transmission. The next review is scheduled for May 2016.
- We will maintain participation in police reference groups to identify and collaborate on other areas for improvement.
- We are in the process of developing a joint criminal HIV transmission investigation protocol, in partnership with lead agencies across justice, health and government.

THPE0434
IMPACT OF SAME SEX PROHIBITION LAW ON SERVICE UPTAKE BY MEN WHO HAVE SEX WITH MEN (MSM) IN PORT-HARCOURT, NIGERIA

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Background: The same sex prohibition law in Nigeria outlaw gay clubs, organizations, their sustenance, processes and meetings. It makes public show of same sex relations illegal and proclaims those who enter into same sex marriage liable to a prison sentence of 14 years and 10 years for those who form or support organizations, their sustenance, processions and meetings. It makes public show of same sex relations and activities illegal. However, data have suggested that MSM are at high risk of HIV in Nigeria. Given the flagging criminalization and stigmatization environment in Nigeria, CRH conducted a small study to evaluate the impact of the law on Program uptake among MSM in Port Harcourt.

Methods: The goal of the Study is to serve as a baseline to generate information on impact of same sex law on service uptake among Men who have sex with Men. A focus group study was conducted with 30 MSM aged 20 to 25 in Port Harcourt who reported ever having had anal intercourse with another man. They were met in small groups of 10 each. Open ended questions were used to illicit answers from them.

Results: A total of 30 respondents participated in the study. Majority (85%) agreed they were freer before the coming into force of the law; a total of 60% of the participants reported increased apprehension with the law. 90% reported inability to uptake medical services for fear of stigma and homophobia. Approximately 63% of men reported fear of their immediate family members and now live double lives. 30% reported they have dropped out of their cohort behavior change communication sessions as they are not sure who they will meet at such meetings and in its impor- tance, 20% reported set ups by friends and they ended up in security and community victimizations and stigmatization.

Conclusions: The same sex prohibition law in Nigeria is a gross disservice to HIV programming and other health service provision for MSM in Nigeria. The law has opened greater doors for exploitation, stigmatization and victimization of MSM in individuals affecting their uptake of services and poses greater threat of cases of HIV new infection among the general population. The law should be abolished in the interest of public health.

THPE0435
RECKLESS ENDANGERMENT: SEX WORKERS’ HEALTH AND HUMAN RIGHTS UNDER THE PROTECTION OF COMMUNITIES AND EXPLOITED PERSONS ACT

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Background: After Canada’s Supreme Court invalidated several provisions of the Criminal Code dealing with prostitution because they violate sex workers’ rights by undermining their health and safety, the federal government introduced the Protection of Communities and Exploited Persons Act (PCEPA). Despite numerous attempts by sex workers and allies to engage with politicians, the PCEPA was passed in December 2014 without meaningful consultation with the sex workers most affected by the law.

Description: The PCEPA purports to address “exploitation that is inherent in prostitution” by criminalizing many activities that are essential for sex work to be carried out safely. These include: communicating in public — or in any place that is in view of, or is next to, a school ground, playground or daycare — to offer or provide sexual services for consideration; purchasing sexual services; and “receiving a material benefit” from, “procuring” or advertising sexual services. Sex workers, clients and third parties who work in the sex industry are captured under many of these provisions, which can include penalties of fines, imprisonment or both.

Lessons learned: The PCEPA reproduces many of the harms produced by the previous laws the Supreme Court held were unconstitutional. Sex workers face increased isolation; have decreased ability to screen clients or to negotiate clear terms of services with clients; are less able to establish safe indoor work spaces; have decreased ability to access the services of third parties; are prevented from advertising their services; and are unable to benefit from health, safety, labour and human rights protections. Street-based sex workers experience greater stigma and discrimination.

Conclusions/Next steps: Although sex workers and allies are prepared to return to court to challenge the PCEPA, they are hoping to work cooperatively with a newly-elected government to create a new legislative framework that respects and protects sex workers’ rights.

THPE0436
HIV CRIMINALIZATION IN EAST AFRICA: A RIPE TIME TO CHALLENGE THE LAW AND POLICY

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Background: HIV criminalization is the unjust application of criminal law based on solely HIV status and this has most time occasioned injustice for persons living with HIV. East African countries are at crossroads, all 5 countries have enacted HIV specific criminal laws. Recently, Presidents of the partner states signed into law the East African HIV prevention and Management Act founded on human rights principles and equity for vulnerable and key population. At the same time This happens within the Kenyan Court has annulled provisions of the HIV ACT for being unconstitutional and unworkable for having placed criminal charges on people living with HIV. Zanzibar has already drafted an HIV Prevention and Management Act which protects sex workers’ rights.

Description: The content of the national laws was analyzed in comparison with the Regional Act , HIV leaders and activists debated and reviewed the opportunities for law reform , bench marking with other jurisdiction in other regions and consultation with Government representative including the ministry of East Africa. Analysis of the political governance on all 5 countries.

Lessons learned: The enactment of the content of Regional law has an opportunity to cure the legislative gaps in the national laws. Tanzania has already drafted an HIV Act with like provisions, without HIV criminal laws. Kenya’s breath rough with strategic legislation increases chance of using the judicial system as an advocacy platform. Learning from Kenya, Uganda has prepared a similar constitutional petition. The legitimacy and the legal power that lies in the regional law can be exploited by a regional HIV activist to cause reform of national laws. Tanzania HIV leaders who did not oppose the passing of the law was to open space for dialogue. New presidents in the region present new political leadership that are likely to support law reform.
HARM REDUCTION, INCLUDING NEEDLE AND SYRINGE PROGRAMMES, OPIOID SUBSTITUTION THERAPY AND SUPERVISED INJECTION FACILITIES

THPEA437
HIV SEROCONVERSION AMONG DRUG USERS RECEIVING METHADONE MAINTENANCE TREATMENT IN CHINA: A QUALITATIVE STUDY

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Background: China’s HIV/AIDS epidemic has historically been driven by injection drug use. To control the spread of HIV, China initiated a national methadone maintenance treatment (MMT) program in 2004, which is now the world’s largest MMT system with 767 clinics and 184,000 clients receiving treatment in 2014. Many clients continue to engage in drug-related and sexual HIV-risk behaviors, and the estimated HIV seroconversion rate among Chinese MMT clients is 0.20-0.66/100 person-years. We sought to explore the experiences of newly-diagnosed HIV-positive MMT clients and to better understand their perceptions of MMT, HIV risk, and HIV prevention.

Methods: In 2012, we recruited clients of 13 MMT clinics in Chongqing and Kunming who had a baseline HIV-negative test result upon MMT entry and had been diagnosed with HIV within the past 12 months. Semi-structured qualitative interviews of 60-90 minutes were conducted to discuss HIV-risk perception, past behavior history, and prevention methods. Field notes were coded manually and analyzed for common themes.

Results: Among the 27 participants who were interviewed, two-thirds were male, the mean age was 40 years, and the mean duration of drug use prior to MMT was 10.7 years. The mean duration between MMT initiation and HIV diagnosis was 2.1 years. Participants self-reported their mode of infection as injection drug use (N=15), sexual contact (N=7), either injection drug use or sexual contact (N=3), or unknown (N=2). Common themes were the difficulty of drug abstinence despite receiving MMT, social pressure to continue using drugs, limited access to clean needles, and low knowledge of effective HIV prevention measures. Many participants thought that they would be able to visually distinguish whether an injection or sexual partner was HIV-infected. Participants also felt that they could moderate their HIV risk by only injecting or having sex with regular long-term partners.

Conclusions: We found that clients who seroconverted while on MMT perceived themselves to be at low HIV risk and had limited knowledge of HIV prevention methods. In addition to MMT, comprehensive HIV prevention services for drug users should include counseling on sexual HIV-risk behaviors and improved access to clean injection equipment.

CONCLUSION:
Monitor clinical Adverse Events (AEs) and device-related adverse incidents.

METHODS:
The sample included 803 HIV negative men, aged 18 to 49 years, from three sites in Gauteng province. Men were followed for 56 days from day of device placement (Day 0).

RESULTS:
A total of 15 865 people went to the clinic to access circumcision services during the study period, however only 5 500 of these were between the ages of 18 and 49 years. Almost half of all participants (44%) were between the ages of 25 and 34 years, and 40% were 18 to 24 years of age. Of the 5,500 clients, 828 (15.1%) people were both eligible and opted to have circumcision done using the PrePex device. There were 20 AEs, giving an AE rate of 2.5%, mainly due to infection, bleeding, self-removals (resulting in surgical interventions), severe pain, problems voiding, and insufficient skin removal as well as delayed wound healing. The majority of the 23 withdrawals prior to device application were due to “lack of device fitting” (device size was too small or too big), and due to medical conditions (phimosis or genital warts).

In Orange Farm, the greatest number of clients were size A; in Katlehong the greatest number of clients were size C.

Conclusions: The AE rate obtained for the current study was 2.5%, 0.5% higher than surgical. This result can be considered “good” as this is the first of many pilot studies examining device-related AEs. Uptake seems to be high with 15% of the total number of males accessing VMMC services opting for PrePex. The relatively low AE rate coupled with the increased uptake of PrePex indicates that men are more likely to opt for device-related circumcision, thus increasing the number of men circumcised and ultimately decreasing the incidence and prevalence of HIV/AIDS cases overall.

THPEA439
UPTAKE OF HIV SERVICES AMONG FEMALE SEX WORKERS (FSWs) IN A HIGH HIV BURDEN SETTING IN WESTERN KENYA: TEKELEZA PROGRAM EXPERIENCE

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Background: FSWs remain marginalized population disproportionately bearing high HIV burden and account for 14.5% of new HIV infections in Kenya. Criminalization of sex work limits access to HIV prevention, care and treatment services. HTC is an entry point to HIV prevention care and treatment services but uptake among FSWs remain low at 68% and 38% HIV Treatment uptake. Tekeleza program was established in 2010 to offer combination HIV prevention care and treatment services to FSWs in Nyanza which has 15% HIV prevalence among adults 15-69 years.

Methods: Services offered at seven drop in centers (DiCEs) include information on safer sex practices, HTC services are offered at enrollment; during quarterly visits and before provision of Post exposure prophylaxis (PEP) for non-occupational sexual exposure to HIV care and treatment, condom education, demonstration and provision, family planning, STI screening and Treatment and TB screening and referral, cervical cancer screening and treatment. The female sex workers were enrolled and followed up on quarterly basis.

Results: Data was analyzed for services offered to 5,880 FSWs enrolled in 7 DiCEs from 2012-2014. Ten percent (n=564) had known HIV positive status at enrolment. HTC uptake was 99.6% (n=5,309) up from 83% in 2012, positivity of 15.2% (n=809), prevalence of 23.3% (n=1,373), 1,373(100%) enrolled into care, 70% (n=958) eligible for Highly Active Anti-Retroviral Therapy (HAART) were initiated, 5 lost to follow up giving 99.2% retention 12 months since initiation. Ninety percent (n=5293) made return visits. Out of 5,293 tests at revisits, 0.6% (31) seroconverted, 62% (n=159) at first follow up visit, 3,482 received long acting family planning methods (69% injectable; 19% implants). Of 3,129 screened for cervical cancer using the visual inspection with acetic acid (VIA), 732 (12%) had positive results and received cryotherapy. 10,617 were screened for STIs, 9.3% (n=991) treated for STIs.

Conclusions: Uptake of HTC services and retention on HAART was high among FSWs, and low seroconversion rate was observed.
THPEE440
AN EXPLORATORY ANALYSIS TO DEVELOP A CONCEPTUAL MODEL OF ‘PATIENT-BLAME’ IN THE CONTEXT OF THE ROLL-OUT OF ‘UNIVERSAL TEST AND TREAT’

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Background: Universal Testing and Treatment (U TT) offers new hope as a global strategy to limit the HIV epidemic. Effectively implementing UTT requires well-resourced, motivated healthcare providers (HCPs) working at facilities and in communities. In our study, HCPs consistently expressed a perception that clinical resources are currently overburdened and concern that UTT might exacerbate this. Further, some HCPs also blamed patients (often indirectly) for undesired outcomes (late initiation or treatment interruptions). We present an exploratory analysis to develop a conceptual model of ‘patient-blame’ to optimize UTT roll-out.

Methods: HPTN 071 is a cluster-randomised trial in Zambia and South Africa with three arms: (A) enhanced testing plus immediate ART initiation, (B) enhanced testing and treatment per national guidelines, and (C) standard of care.

We analysed structured health service observations, 157 interviews and 19 group discussions with HCPs across the 21 trial sites over 30 months. Conceptual trends are identified through narrative analysis.

Results: We identified three related cognitive processes important to patient-blame. For HCPs, patients’ treatment outcomes are important both for individual patient care and for public health implementation targets. When HCPs feel unable to meet public health targets, they may deflect responsibility for this onto patients. Also, when patients (‘lay’) do not do what HCPs (‘experts’) think they should, then the HCPs’ expert authority is challenged. HCPs may reclaim this power by labelling such patients as ‘bad’. Finally, like victim-blame, ‘innocent’ patients having under-sired health outcomes threatens belief in the world’s justness. Rather than accepting this, blame is affixed to patients who ‘must have done something to deserve it’. UTT is perceived to potentially exacerbate each process by (a) setting targets perceived to be even more ambitious, (b) having more patients who are perceived as relatively ‘well’ but who may get out of treatment (cause c or targets), and (c) requiring resolution of the ‘just-world tensions’ more frequently.

Conclusions: The combination of HCPs’ concern that the health system has limited capacity to deliver quality care under UTT plus normative (even positive) cognitive processes can enable patient-blame. Training and health system strengthening should be implemented alongside UTT roll-out to mitigate HCPs’ concerns and facilitate optimal implementation.

THPEE444
A TOTAL MARKET PRICING STRATEGY TO INCREASE CONDOM MARKET SUSTAINABILITY IN TANZANIA

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Background: In 2012, only 43% of the total market need for condoms was met in Tanzania. Most supply was either free or one of two highly subsidized condom brands: Salama and Dume. To increase the use as a percent of need, it was necessary to reduce subsidy and address market inefficiencies including artificially low prices, while sustaining or increasing volumes. In 2012, the subsidized condom market was 95 million condoms, and the total market net value was $1.14 mil USD.

Description: To increase the value of the market while increasing volumes, PSI developed a three-pronged strategy: (1) Increase price of Dume branded condom to cost recovery while sustaining or slightly diminishing volumes; (2) maintain a low priced/high volume Salama condom; and (3) support to the public sector to better targeting and uptake of free condoms.

Target audience segmentation and marketing strategies were aligned to pricing strategies. Dume marketing included 3 years of an initially heavy consumer investor, investment targeting older men to build equity as a high end brand, followed by 2 years of intensified trade marketing. Dume price from importer to the trade increased by 140% from 2011 to 2012 (with a slight price decrease by 2015 of 6%). The Salama strategy included a heavy focus on trade marketing, sales commissions and a repositioning of the brand in 2014 to target younger consumers.

Lessons learned: The net impact resulted in an increased overall market value, driven by price increases from $1.14 mil USD to $1.634. The total market volume increased from 95 million in 2012 to 120 million in 2015.

Conclusions/Next steps: A clear and consistent total market strategy with a focus on price can result in increased value and volume in a market which can allow for a reduction in subsidy. A balanced approach is needed, pulling demand side and supply side marketing levers to ensure brand relevance and acceptance of increased pricing. The strategies for free and subsidized condoms must be coordinated to ensure equity. There is need to further measure the commercial sector contribution and facilitate greater opportunity for commercial brands.

THPEE442
ENDING THE AIDS EPIDEMIC IN WOMEN AND GIRLS IN SUB-SAHARAN AFRICA: THE POTENTIAL ROLE OF A PREVENTIVE AIDS VACCINE

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Background: Pervasively high HIV prevalence and incidence in women and girls in Sub-Saharan Africa (SSA) contrasts with gains seen in other populations or regions. A wide spectrum of social and cultural factors, including gender inequality and violence, can prevent women and girls from accessing existing prevention options. Women aged 15-24 are twice as likely to be living with HIV as their male peers.

Methods: New infections averted in women aged 15-24 were calculated for 18 SSA countries, assuming a base case vaccine (introduced in 2027, 3 doses, 70% efficacy, 5 years duration) achieving good uptake (50-70% depending on age tier) is implemented in combination with full scale-up of programs in LMICs as outlined in UNAIDS’ Investment Framework Enhanced (IFE). The impact on young women in all SSA countries is calculated based on the impact in the 18 countries, adjusted with the ratio of new infections in young women in all SSA countries versus in these 18 countries.

Results: A vaccine of base case characteristics reduces annual new HIV infections in young women in SSA by 46% one decade after introduction, by 72% in the 25th year after introduction, and by 91% in the year 2070. A vaccine would reduce cumulative new infections in young women by 29% in the first decade, by 46% in the first 25 years, and by 58% by 2070.

Conclusions: AIDS vaccines would be fundamental to conclusively ending the AIDS epidemic in young women in SSA. Implementing existing and emerging prevention options targeting women and girls in the near-term while sustaining vaccine R&D efforts will be necessary to enhance prevention choices for women and girls, and to achieve and sustain the end of AIDS. These data provide strong evidence for sustained support for AIDS vaccine R&D toward globally effective vaccines for incorporation into comprehensive health programs.
2015 with more than 408,000 condoms distributed over the 3 year period using these bushcans alone. Discussions with residents revealed that they were pleased with the increased access to condoms via these bushcans and they further recommended other areas for potential implementation of this initiative.

Conclusions/Next steps: This bushcan initiative highlighted that condoms are not as easily accessible to all South Africans as is often thought. By providing access to condoms in a discrete and convenient manner, these ‘bushcans’ have the potential to increase access to condoms in other rural and peri-urban areas in South Africa, where communities face similar barriers to access.

THPEE445
IMPLEMENTING A SUCCESSFUL PREP PROGRAM: LESSONS LEARNED FROM THE LARGEST LGBT COMMUNITY HEALTH CLINIC IN NEW YORK CITY

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Background: With 50,000 new infections each year in the US there is an urgent need to incorporate new strategies for prevention, especially in key populations such as MSM, transgender women and Black/African American communities. The approval of Truvada (TDF/FTC) for Pre-Exposure Prophylaxis (PrEP) by the US FDA in 2012 ignited prevention efforts. Uptake has been slow as facilities struggle to address community awareness, staff training, access, visit costs and ensuring quality care delivered.

Description: Callen-Lorde Community Health Center (CLCHC) is an LGBT-focused center in NYC. PrEP was initiated in a pilot phase in 2012 and scaled up as a discrete program in 2015. CLCHC’s program focus is on connecting key populations (MSM, transgender people and people of color) to PrEP. The initial demand for services was overwhelming and threatened to overload clinic capacity. Challenges included providers’ unwillingness to prescribe, lack of provider knowledge, navigating complex insurance and non-paid assistance programs, clinical workflow, time constraints, protocol development, data collection, ensuring cultural competency and maintaining a sex-positive environment, free of PrEP-stigma. Several operational meetings were convened with internal and external stakeholders to design a centralized program that ensured consistent and quality care.

Lessons learned: A clinical workflow was established to minimize the clinicians’ role and maximize the role of non-clinical staff, e.g., patient navigators & HIV counselors. Templates and electronic flags were implemented to document PrEP consultations, order specific labs and track patients using an innovative prescription algorithm. The implementation of self-collected STD specimens reduced the burden on clinical staff. The process designed videos (available on YouTube) to address common questions about PrEP. PrEP Specialists were hired to carry out all administrative functions, troubleshoot medication access and assist with counseling on adverse effects and monitoring adherence.

Conclusions/Next steps: Once aware, there is demand from the LGBT community for PrEP. Multi-disciplinary teams of clinicians, social workers, nurses and HIV counselors must collaborate in order to support patients throughout the PrEP care continuum. Agencies must allow flexibility and innovation to take place when developing PrEP protocols and programs.

THPEE446
ACCESS TO POST-EXPOSURE PROPHYLAXIS FOR CONSENSUAL SEXUAL ACTIVITY AND COMBINATION PREVENTION IN HIV CLINICS IN BRAZIL: QUALITATIVE FINDINGS FROM THE COMBINE STUDY

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Background: Despite strong evidences on the efficacy of biomedical HIV prevention, most of the research analyzes within the context of high-risk groups with limited representation of other areas. The approval of Truvada (TDF/FTC) for Pre-Exposure Prophylaxis (PrEP) by the US FDA in 2012 has opened up new possibilities for intervention in these areas.

Methods: As part of a multicentric pragmatic clinical trial on pre- and post-exposure prophylaxis and the combination HIV prevention methods, in-depth interviews were conducted with 42 nPEP users in 5 healthcare clinics in Brazil.

Results: The nPEP users are mainly men (heterosexual and homosexual), but women also search for the prophylaxis. Individuals usually report seeking information on how to avoid infection after they experiment accidents in sexual intercourses with casual partners, people living with HIV (PLWH) or in the context of sex work. Internet, other health services and PLWH are the main sources of information about nPEP and where it is available.

Priority assistance for nPEP was reported as a facilitator to entry services. Reported barriers include: nurses’ and doctors’ misconceptions about nPEP, confusing protocols in emergency settings; receptionists’ poor knowledge of preventive services offered by the clinics. Interactions with professionals were evaluated positively. Services were mainly described as fast, clarifying and non-discriminatory. Nevertheless, a few reported judgmental attitudes from counselors and receptionists as well as embarrassment for having to report sexual exposures in reception desks or in non-private medical settings. Others complained about not being informed about alcohol restriction during PEP. Some reported that the quality of care covered their expectations, especially considering they are offered in public, non-paid services.

Conclusions: Access to information about nPEP still relies on individual initiatives, being little known by users prior to accidents. Organizational barriers to overcome to improve access to nPEP include: expanding information on its availability; overcoming knowledge gaps among healthcare professionals; providing qualified information in all users-healthcare providers interactions; and guaranteeing private settings.

As PEP services are likely to be involved in the offer of methods such as PrEP, those improvements will contribute to promote access to and use of broader HIV prevention packages.
EARLY INFANT AND ADULT MALE CIRCUMCISION PROGRAMMES

THPEE447
MODELING COSTS AND IMPACTS OF INTRODUCING EARLY INFANT MALE CIRCUMCISION FOR LONG-TERM SUSTAINABILITY OF THE VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM

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Background: Voluntary medical circumcision (VMMC) is an effective HIV prevention strategy for males. Since 2007, the President’s Emergency Plan for AIDS Relief has supported VMMC programs in 14 priority countries in Africa. Today several of these countries are transitioning to program sustainability and maintaining high levels of male circumcision in the population. Alternative strategies being considered: circumcising adolescents over the long term, integrating early infant male circumcision (EIMC) into existing programs, or some combination of the two.

Methods: The paper uses the Decision Makers Program Planning Tool (DMPPT) 2.0 model to assess the cost and impact of VMMC sustainability strategies in multiple countries, particularly in Zimbabwe. The model was populated with national estimates of population, mortality, and HIV prevalence and incidence using the Spectrum/Goals model and the Zimbabwe Demographic and Health Survey 2010-2011. Various scenarios were analyzed to 2051. Additional sensitivity analyses examined the effects of different timing of introducing and scaling up EIMC, and of different discount and baseline MC prevalence rates.

Results: Adopting a strategy to introduce EIMC immediately, or in a phased approach increases the total number of circumcisions needing to be performed, but with substantially decrease HIV incidence. It may, however, result in cost savings depending on the ratio of cost of EIMC vs. cost of adolescent VMMC. This timing of the introduction of EIMC, and the duration of scale-up, whether over five or ten years, had only a marginal impact on the number of infections averted, the cumulative cost of the program, and on the number of VMMCs required to avert a single HIV infection.

Conclusions: Introducing EIMC into existing VMMC programs provides little or no additional reduction in HIV incidence, and is being considered as part of sustainable plans because of implementation and safety considerations. Because the return cost of EIMC compared to adolescent VMMC is still unknown, the overall cost effectiveness of introducing EIMC will depend on findings from future costing studies. But if the cost is 50% or less than the cost of adolescent VMMC, then the introduction of EIMC for sustainability of the VMMC program will be cost saving for most countries.

THPEE449
ACCEPTABILITY OF NEONATAL CIRCUMCISION BY PREGNANT WOMEN IN KWAZULU-NATAL, SOUTH AFRICA

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Background: Studies on voluntary medical male circumcision (VMMC) have provided convincing evidence on its efficacy to provide partial protection against female-to-male HIV transmission in circumcised men. Following this evidence the WHO and UNAIDS formulated recommendations for VMMC implementation settings with generalised HIV epidemics and low circumcision prevalence. The recommendations stipulate an implementation that ensures VMMC services to all infants up to 2 months old (neonatal medical male circumcision/NMMC) and at least 80% of male adolescents.

We explored the acceptability of NMMC amongst pregnant women who are candidates for grants of consents for NMMC procedures in order to inform the guidelines for NMMC implementation and its possible integration with other Maternal, Child and Women’s Health (MCWH) programmes.

Methods: Nurses and counsellors at two public health facilities were trained to provide NMMC counselling and offer NMMC to pregnant women who presented for antenatal care (ANC) services. The counselling included the benefits of NMMC in HIV prevention later in life, the surgical procedures, risks and the benefits of the procedure. Data on NMMC acceptance, refusals and reasons for refusals were recorded in the registers and subsequently captured onto an SPSS database. Data was analysed to establish the acceptability of the procedure and the feasibility of integrating NMMC with MCWH programming. Qualitative thematic analysis was used to analyse the reasons for NMMC.

Results: The NMMC acceptance was high (82.9%) among the 1778 women who participated. There was no significant age difference between women accepting and those refusing NMMC (p=0.089). Most refusals were due to the women requiring consultations with partners and / or family prior to consenting (41.3%), fear of the procedure (23.8%), cultural reasons (15.9%) and no reasons given (15.3%).

Conclusions: Findings provide evidence of the possible high uptake of NMMC at public health institutions and the feasibility of its integration with other MCWH programmes. However the presence of socio-cultural issues mainly related to support from public health institutions and the feasibility of its integration with other MCWH programmes.

THPEE450
MEDICAL MALE CIRCUMCISION COVERAGE FROM 2007 TO 2014 IN RAKULA, UGANDA

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Background: Medical male circumcision (MMC) is an important HIV prevention strategy in Sub-Saharan Africa. In 2011, WHO/UNAIDS set the strategic goal of achieving “MC prevalence of at least 80% among 15-49 year old males” by 2016 in 14 priority countries, including Uganda. Reaching this goal requires monitoring and evaluation to assess program performance and identify subgroups with low cover-
age. Using population-based data in Rakai, Uganda, we estimated MMC coverage in men aged 15-49 years and by their demographics, risk profiles, and HIV serostatus from 2007 to 2014.

**Methods:** The Rakai Community Cohort Study conducts population surveillance of consenting residents aged 15-49 in rural Rakai every 12-18 months. MMC services were provided through randomized trials during 2004-06. Since 2007, free services were scaled up under PEPFAR funding. We used data from 30 communities consistently surveyed from 2007-2014. Each survey collected sociodemographic, behavioral, and health care seeking information, including self-reported circumcision status. Blood samples were collected for HIV testing. We estimated MMC coverage in all men and by subgroups. Chi-square tests were used to compare coverage by characteristics in each survey.

**Results:** Figure 1 shows MMC coverage in men and by non-Muslim men’s age, marital status, residence type, sexual behaviors, self-perceived risk of HIV exposure, and HIV status. From 2007-2014, coverage in all men increased from 28.5% to 52.0%. Coverage was initially lower in 15-19-years olds but increased in 2014. Coverage was consistently higher in married men and in urban communities, and lowest in men with no sex partners in the prior year. Coverage did not significantly differ by condom use, self-perceived risk of HIV exposure, or by HIV serostatus.

**Conclusions:** Increasing MMC coverage in all subgroups suggested that MMC became normative, but coverage fell short of WHO/UNAIDS target, indicating the need for demand generation to reach the 80% coverage goal.
THPEE453

INCREASING UPTAKE OF CIRCUMCISION SERVICES AMONG 15-29 OLD SWAZI MALES THROUGH PRIVATE PRACTITIONERS

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Background: HIV prevention has reached a new area, marked by biomedical ad-
vancements in HIV prevention such as voluntary medical male circumcision (VMMC) among others. Faced with the world’s highest HIV prevalence (31% among 18-49 year olds), the Government of Swaziland, with support from the United States
Agency for International Development (USAID) and technical assistance from the Centre for HIV/AIDS Prevention Studies (CHAPS), aims to increase uptake of VMMC, especially among males aged 15-29 years, to have an immediate impact on HIV in-
crease. Over the past 5 years, the proportion of men circumcised in this age group has declined from 78% (2010) to 26% (2015).

Description: In 2015, CHAPS engaged 3 private practitioners in April 2015 on a cost per circumcision basis, after a positive experience with private doctors in South Africa. Private practices can be attractive for men, who often don’t visit public facili-
ties (long queues, poor service, focus on maternal and child health, no privacy, lack of trust in quality of the service). CHAPS provides an MC kit, training and quality
assurance. The private practice does demand creation, provides the service and as-
sures follow-up.

Lessons learned: Private practitioners successfully reached 15-29 year olds (45% of all private clients), a significantly higher proportion than the other partners (27%), at a cost per circumcision of US$ 65 (S2L 900). Practitioners recruited among exist-
ing clients, in high schools and in workplace settings around their practice. Men are
taking up VMMC in a men friendly setting.

Conclusions/Next steps: Engaging private practitioners is a cost-effective strategy to reach 15-29 year olds. CHAPS is expanding the private practitioners’ network, and is exploring to incorporate best practices in public VMMC sites where feasible: providing a men friendly setting and focusing recruitment efforts in high school and workplace settings.

THPEE454

EARLY INFANT MALE CIRCUMCISION USING THE ACCUCIRC DEVICE: EXPERIENCES FROM NATIONAL SCALE UP IN BOTSWANA

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Background: Botswana has the second highest HIV prevalence (18.5%) globally and has been earmarked by WHO and UNAIDS among high priority countries for scaling up voluntary medical male circumcision (VMMC). WHO and UNAIDS recommend early infant male circumcision (EIMC) due to its cost-effectiveness, safety, and re-
duced risks compared to adult and adolescent circumcision. Countries are consider-
ing various devices for EIMC. Although rare, serious potential complications have been associated with some devices. Botswana program is the first to implement EIMC in routine reproductive health services using the AccuCirc device in a success-
ful fully integrated approach, positioning it as a model program.

Description: During pilot services in two referral hospitals, with some technical support from PEPFAR, a small number of midwives and doctors in maternity wards were trained to offer EIMC using the AccuCirc device. Upon reaching proficiency, these providers at the pilot facilities were trained on clinical training skills and ca-
cipated to be EIMC master trainers. The pilot facilities became training hubs for cascading training. Demand creation was conducted in antenatal clinics, outpatient education sessions and at traditional (Kgotla) meetings. To date, 277 providers (majority midwives) have been trained. Overall, twenty five EIMC service delivery points have been established, covering most districts. Nurse midwives have con-
ducted 95% of 3,334 procedures in 24 months through December 2015 in this fully integrated model, managed and financed by government.

Lessons learned: Task shifting to nurses has helped overcome the staff shortage associated with a doctor depended model. Integration has enhanced government ownership. EIMC training using the master trainers has increased program reach. Due to proper scheduling of staff and procedures, providers report no burden from including EIMC in their regular work. The pre-packaged device kits ease the supply chain management. Challenges include loss to follow up and obtaining consents from partners and guardians.

Conclusions/Next steps: Roll out of EIMC to supplement and sustain coverage of VMMC using the AccuCirc device in a fully integrated model was feasible in this fairly resource constrained setting. Systematic assessment of safety and cost of AccuCirc device based services in this model is recommended.

THPEE455

A RANDOMIZED TRIAL OF EARLY INFANT MALE CIRCUMCISION PERFORMED BY CLINICAL OFFICERS AND REGISTERED NURSE MIDWIVES USING THE MODERN CLAMP IN RAKAI, UGANDA

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Background: Medical male circumcision (MMC) for HIV prevention is a priority in 14 East and Southern African countries, and the long-term sustainability of MMC programs could best be achieved by offering early infant male circumcision (EIMC).

Conclusions/Next steps: Engaging private practitioners is a cost-effective strategy to reach 15-29 year olds. CHAPS is expanding the private practitioners’ network, and is exploring to incorporate best practices in public VMMC sites where feasible: providing a men friendly setting and focusing recruitment efforts in high school and workplace settings.

Conclusions/Next steps: Engaging private practitioners is a cost-effective strategy to reach 15-29 year olds. CHAPS is expanding the private practitioners’ network, and is exploring to incorporate best practices in public VMMC sites where feasible: providing a men friendly setting and focusing recruitment efforts in high school and workplace settings.
THPEE456

COMPETENCE-BASED TRAINING OF NON-PHYSICIAN HEALTH WORKERS IN THE PROVISION OF EARLY INFANT MALE CIRCUMCISION (EIMC) USING THE MOGEN CLAMP IN RAKI DISTRICT, UGANDA

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Background: Early Infant Male Circumcision (EIMC) is a key component of combination HIV prevention in high HIV burden countries. However, provision of EIMC is limited due to lack of qualified providers and concerns about potential complications. Adequate competence-based training of non-physician personnel using a structured curriculum can avoid complications and enhance scale-up of EIMC in regions with low physician coverage.

Methods: Didactic and practicum training in the provision of EIMC using the Mogen clamp under topical anesthesia was conducted for 10 Clinical Officers (COs) and 10 Registered Nurse Midwives (RNMWs) in preparation for a trial on safety and acceptability of EIMC in Rakai, Uganda. Neonates whose mothers provided written consent were assigned in tandem to the 20 trainees. Each trainee performed at least 10 circumcision procedures. Ongoing assessment of competency was based on trainer feedback provided immediately after surgery.

Results: A total of 202 babies were circumcised by trainees but only100 (5 per trainee) were used for the assessment of trainee’s competence i.e. Procedures 1, 3, 5, 7, and 9. In a pretest of competency, 20% of COs and 10% of RNMWs scored above the pass mark (set at 80%). By 7th EIMC procedure, all trainees had achieved pass mark competence. The variability in performance scores significantly declined with increasing number of procedures performed. The median time per was similar between COs (13 minutes) and RNMWs (12 minutes). Safety of EIMC was comparable between COs and RNMWs. Four moderate insufficient skin removals occurred; 2 by COs and 2 by RNMWs.

Conclusions: Training of non-physicians improved knowledge and competency in EIMC and the gain in competency was similar among COs and RNMWs using the same training program.

THPEE458

EARLY RESULTS AND LESSONS FROM THE SCALE UP OF VIRAAL LOAD TESTING IN 13 DISTRICTS OF SOUTH-WESTERN UGANDA

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Background: The 2013 WHO consolidated guidelines on antiretroviral treatment (ART) recommend viral load (VL) testing as the preferred monitoring tool for diagnosing and confirming treatment failure. The Uganda Ministry of Health (MOH) set up a viral load testing laboratory at the Central Public Health Laboratory (CPLH), processing VL samples from all health facilities in 2014. The scale up of VL testing in low-resourced, rural settings raises challenges for planning, specimen transmission and incorporating quality viral load testing into existing service delivery.

Methods: EGPAF supported the MOH to roll-out VL testing to 85 high-volume ART sites in South-Western Uganda in 2015. In collaboration with CPLH, multidisciplinary teams of health workers were trained in VL testing and site-specific action plans developed. Sites received start-up supplies for dried blood spot sample collection and standard operating procedures for integrating with the existing sample transportation network.

Results: After training 374 health care workers (clinicians, laboratory technicians, nurses/midwives), VL testing rapidly scaled up. Between July and October 2015, 13,500 clients on ART longer than 6 months received VL testing. Adults >19 years achieved 94% suppression. Those <19 years had much lower rates of suppression: 81% for those 15-19 years and 5-10 years.

Conclusions: VL testing in low resource rural settings is feasible with strong collaboration and planning.

SUCCESSES, CHALLENGES, AND RESULTS FROM IMPLEMENTING HIV TESTING, PREVENTION, CARE AND TREATMENT PROGRAMMES

THPEE467

IMPACT OF DECENTRALISATION ON ART SERVICES AT COMMUNITY LEVEL IN RURAL NORTHERN UGANDA: RESULTS FROM THE LABLITE POPULATION SURVEYS


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Background: The Lablite project carried out unlinked cross-sectional population-based surveys in rural Northern Uganda before and after decentralisation of ART services. ART for Option B+ was provided at a local primary care facility (Lira Kato

HC) from April/2013 and general ART from September/2013. Prior to decentralisation, people had to travel 56-76 km round-trip for ART.

Methods: Households in the 2 parishes closest to Lira Kato were visited between March-April/2013 and again between January-March/2015. Up to 3 adults were interviewed per household.

Results: 2124 adults in 1351 households were interviewed in 2013; 2123 adults in 1299 households in 2015. In 2015, 1454 (69%) individuals knew Lira Kato provided ART services. HIV-testing in the last year had increased from 1077 (51%) in 2013 to 1298 (61%) in 2015 (p<0.001); prevalence of self-reported HIV in individuals ever-tested was similar (136/1730 (8%) in 2013 and 133/1907 (7%) in 2015). ART coverage increased significantly from 74/136 (54%) in 2013 to 108/133 (81%) in 2015 (p=0.01). Post-decentralisation, 47/108 (44%) of those on ART were in care at Lira Kato; most of the remainder (55/61) were in care at the mission hospital (56km round-trip). 33/47 (70%) individuals initiating ART after September/2013, initiated at Lira Kato (including 10 Option B+ women).

Conclusions: ART coverage increased after decentralisation combined with Option B+ roll-out. Patients who started ART elsewhere were reluctant to transfer to their local facility; the majority feared drug stock-outs. Patients attending secondary-level facilities were more likely to miss collecting ART due to distance/cost.
Overall, children <19 years enrolled on ART have lower viral suppression rates compared to adults, with the lowest rates among children between 5-10 years and adolescents from 15-19 years. Urgent interventions are needed to determine whether low VL suppression among those <19 years is due to poor adherence or to treatment failure. EGPAF will sustain these gains through continuous analysis and use of data, integrating QI approaches and building MOH capacity to address identified gaps.

THEPE459
USE OF MOTORCYCLE HEALTH CAROUR MODEL IMPROVED ACCESS TO LABORATORY SERVICES AMONG HIV-INFECTED PERSONS IN RURAL EASTERN UGANDA, A CASE OF TORORO LABORATORY HUB

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Background: Inaccessibility of laboratory testing services in Tororo and Manafwa districts owing to challenges in transportation of samples and results to and from the testing facilities led to very few patients accessing laboratory testing services. In 2013 through partnership with Tororo District leadership, TASO and CDC introduced the motorcycle health courier model with the aim of improving timely access to laboratory testing services for PLHIV in the supported districts of Tororo and Manafwa.

Description: TASO hired two trained Motorcycle Health courier personnel in July 2013 to improve efficiency through timely collection and transportation of samples including delivery of results. Each courier supported one district with a coverage of 22 health facilities in Tororo and 16, in Manafwa. Their schedules involved visiting at least 5 to 7 facilities a day to collect samples, deliver previous results and distribute some vital testing supplies. Samples collected would be delivered to the hub Laboratory before 3pm for analysis.

Lessons learned: The average distance covered by the couriers in one day between the facilities was 120km. 38 public health facilities within 2 districts of Tororo and Manafwa were able to access laboratory testing services and timely delivery of results. Data analyzed before and after the recruitment of health couriers indicated a10 fold rise in CD4 testing from 2409 tests in 2013 to 21627 tests in December 2014. Liver Function Tests and Renal Function Tests increased from 0 to 39507 with a10 fold rise in CD4 testing from 2409 tests in 2013 to 21627 tests in December 2014. Complete Blood Count testing improved from 19 to 5345. The test turnaround time was one week down from the previous 1-2 months. There was continuity of testing services due to improved stocking and redistribution of testing supplies by the couriers. Challenges reported by the health couriers included unfavorable weather and bad roads.

Conclusions/Next steps: Use of motorcycle health courier model significantly improved access to laboratory testing services in public health facilities in Rural Eastern Uganda. Programs scaling up laboratory testing services in resource-limited settings should consider use of motorcycle health couriers to improve access and improve quality of lives of patients since its sustainable.

THEPE460
CHARACTERISTICS OF PEDIATRIC PATIENTS ENROLLED IN HIV CLINICS OVER TIME IN KISUIMU, KENYA

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Background: New HIV infections among children in Kenya declined from 44,000 in 2000 to 12,940 in 2013. AIDS-related deaths claimed 10,390 children in 2013 and 103,000 children remained in need of ART in 2015. Despite progress made, more efforts are needed to meet the UNAIDS 90:90:90 goal for children. This study aimed to describe the characteristics and outcomes of HIV exposed infants tested and the children enrolled in HIV care and treatment from 2007-2013.

Methods: We assessed trends in age at enrollment, time to ART initiation and 12-month outcomes in a cohort of children14 years of age enrolled in HIV care and aggregated trends in infant infections in two facilities supported by Family AIDS Care & Education Services (FACES) in Kisumu, Kenya. Descriptive analysis included proportions for categorical variables and median (inter-quartile range [IQR]) for continuous variables. Wilcoxon rank-sum, chi-square and log-rank tests were used to test for trends over time.

Results: HIV-exposed infants testing HIV positive peaked at 18% in 2009 and decreased from 2010 - 2013(8%, 11%, 1%, 3% respectively) (p< 0.001). Concurrently, the number of children enrolled yearly decreased over time from 295 in 2007 to 92 in 2013. Median enrolment age was 3.9(IQR 1.3,7.9) years (Table1). Three-quarters of those eligible for ART were initiated. The median time from eligibility to ART initiation decreased over time, from 33 days in 2007 to 12 days in 2013 (p< 0.001). We found no significant trends over time in the proportion of pediatric patients active in care (p=0.93), lost to follow-up (LTU) (p=0.80), dead (p=0.73) or transferred out (p=0.11) by 12 months after enrollment. The proportion of children remaining alive and active in care was lowest in 2010 (63%) and highest in 2013 (83%).

Conclusions: The number of children remaining alive and active in care is lowest in 2010 (63%) and highest in 2013 (83%). The percentage of children who initiate ART in 2013 is 91% compared to 73% in 2010. The percentage of children who are active in ART care is lowest in 2010 (63%) and highest in 2013 (83%).

THEPE461
A Dose-Response Relationship Between Exposure to an HIV Prevention Intervention and Preventive Behaviors in Mozambique: Findings from the CAPABLE PARTNERS Program (CAP) F. Gennari1, E. Oliveras2, I. Seff2, E. Marinda4, H. Bryant2
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Background: Mozambique has seen improvements in condom use and in the uptake of voluntary HIV counseling and testing over time, as did infant infections in recent years. Further examination is warranted to determine if declining enrollment may be due to fewer intrapartum and neonatal infections. Time to ART initiation has also declined among newly diagnosed children living with HIV.

Methods: In 2014, we conducted a multi-phased household cluster survey in 12 districts in 4 provinces of Mozambique where CAP was implemented. We interviewed 923 individuals aged 15-64 (399 men, 524 women), 624 of whom were exposed to CAP BCC, and 299 who were not exposed to any HIV intervention. Participation was divided into three levels according to respondent involvement in eight CAP activities in the past 6-12 months: low (1-3 instances of participation), medium (4-6 instances) and high (more than 7 instances). Activities included one-on-one talks with a peer educator, participation in discussion groups, and watching theater performances or films about HIV/AIDS. The participation variable was regressed on five outcomes: intention to seek VCT in the next 6 months, ever sought counseling and testing for HIV/AIDS (individual VCT), ever gone for an HIV test with any of their sex partners (couple VCT), condom use at last sex, and current multiple concurrent partners.

Results: Our results suggest a significant dose-response relationship between CAP participation and three outcomes: intention to test for HIV at low (AOR=2.67, 95%CI:1.49-4.78), medium (AOR=4.29; 95%CI:2.14-8.58), and high (AOR=9.41; 95%CI:4.48-19.79) participation, individual VCT at low (AOR=2.67, 95%CI:1.52-4.67), medium (AOR=4.29; 95%CI:2.14-8.58), and high (AOR=9.41; 95%CI:4.48-19.79) participation, and aggregated trends in infant infections in two facilities supported by Family AIDS Care & Education Services (FACES) in Kisumu, Kenya. This study aimed to describe the characteristics and outcomes of HIV exposed infants tested and the children enrolled in HIV care and treatment from 2007-2013.

Conclusions: Initial findings suggest higher levels of participation in CAP activities are significantly associated with increased intention to seek VCT, and reporting individual and couples VCT. Increasing in greater doses of intervention programming may be worthwhile for behavior change.
Implementation of the World Health Organization 2013 Antiretroviral Therapy Guidelines Improves in a Primary Healthcare Setting in Uganda

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Background: In 2013, the World Health Organization (WHO) released new guidelines recommending ART initiation for all patients with CD4 < 500 cells/mm³. However, there is limited evidence on the extent of adoption of those recommendations in primary healthcare settings. We assessed the proportion of patients initiated on ART at CD4 < 350 cells/mm³ and the predictors of ART initiation before and after implementation of the 2013 guidelines in an HIV clinic supported by the AIDS Healthcare Foundation (AHF) in Uganda.

Methods: We conducted a cross sectional study among patients attending St. Balikuddembe HIV clinic in Kampala. We compared proportion of patients initiated on ART with CD4 > 350 cells/mm³ between June 2012 to May 2013 (2012-2013) - still using WHO 2010 guidelines – and June 2013 to May 2014 (2013-2014) - using the new WHO 2013 guidelines. Multivariable logistic regression was used to determine other factors associated with ART initiation.

Results: We studied 2,003 patients with a median age of 33 years (IQR 28-40) of which 58.3% were female. Median CD4 baseline was 295 (IQR 169-404) cells/mm³, 10.7% were in WHO stage III or IV. During the period 2013-2014, 60.3% of the patients initiated on ART had a baseline CD4 > 350 cells/mm³ compared with 47.8% in 2012-2013. Time to ART initiation was 21 days (IQR 3-63) in 2012-2013 compared with 1 day (IQR 0-8) in 2013-2014. Factors associated with ART initiation at CD4>350 cells were period of ART initiation (2013-2014 vs 2012-2013: Odds ratio (OR) 1.4; 95% confidence interval (CI) 1.2 - 1.7; p< 0.001), WHO stage (stage 4 vs stage 1: OR 0.4; 95% CI 0.2 - 0.9; p=0.029), sex (male vs female: OR 0.8; 95% CI 0.6 - 0.9; p=0.017) and age.

Conclusions: We observed a progressive increase of patients with higher CD4 initiated on ART following implementation of the WHO 2013 guidelines in an urban HIV clinic in Uganda. We also found that female sex and WHO stage 1 were independently associated with ART initiation at CD4 > 350 cells/mm³. Time from enrolment to ART initiation significantly reduced after fully implementing 2013 guidelines probably due to better health status of clients initiated at higher CD4.

Implementation of Routine Viral Load Monitoring in a Large Urban Clinic in Uganda

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Background: Routine viral load (VL) monitoring has recently been introduced in Uganda. In order to achieve the third 90-90-90 (90% of patients on ART with undetectable VL) target set by UNAIDS, it is paramount that patients failing ART are promptly switched to another treatment. We evaluated actions taken for patients with VL >1,000 copies/ml accessing care at the Infectious Diseases Institute, a large urban HIV Centre in Kampala, Uganda.

Methods: As per internal guidelines, VL results >1,000 copies/ml are flagged by a quality assurance officer and sent to the requesting clinician. The clinician fills a “decision form” choosing: 1) refer for adherence counselling 2) repeat VL after 3 months 3) switch to second line. We performed data extraction on a random sample of 100 patients with VL test >1,000 copies/ml between January-August 2015. For each patient, we described the action taken by the clinicians.

Results: 6,936 patients had their VL done between January and August 2015, of which 1,021 (16%) had >1,000 copies/ml. Of the 100(10.1%) clinical files sampled 61% were female, median age was 39 years, 81% were on 1st line ART, 19% on 2nd lineline, median CD4 count was 249 cells/µL, median log10 VL 4.42 (IQR: 3.98-4.92). Figure 1 summarizes the action taken for the patients. Doctor’s decisions were: refer for counseling 49%, repeat VL for 25%, and switch to second line for 24% patients. 41%werenot managed according to the guidelines. Of these, 29 (70.7%) are active in care 7 were tracked (5 (12.2%) lost to program, 2 (4.9%) dead; for 5 patients were not tracked.

Conclusions:

Working Toward the First 90: Identifying HIV-infected Children Through Inpatient PITC

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Background: The pediatric 90-90-90 initiative is driving program efforts to close the treatment gap between children and adults. The first “90” challenges us to identify 90% of children living with HIV, and most programs turn to aggressive and targeted provider initiated testing and counseling (PITC) efforts to achieve this. In Tanzania, pediatric wards are a priority area for PITC and EGPAF partnered with local government health management teams to target, accountable, and sustainable pediatric PITC efforts at high volume facilities in four regions (Arusha, Kilimanjaro, Lindi, Tabora).

Description: Strategies to routinely test children for HIV were agreed upon with local government officials and included: orientation/training of pediatric ward staff in counseling and HIV testing, adding PITC to the daily clinical meeting agenda, and assigning testing targets to staff members or shifts. Patient-level PITC data are recorded in standard registers and submitted to district and regional authorities every week.

Lessons learned: From January 2014 to September 2015, 122,657 children were admitted at 123 participating health facilities. The coverage for PITC at the pediatric wards was 47% in hospitals compared to 38% in primary facilities (p<.001). A total of 958 (1.8%) children were identified as newly HIV-infected, 83% of these were attending the 41 hospitals where the HIV-positive yield was also higher (1.9%) compared to the yield at primary level facilities (1.3%, p<.001). While the coverage of PITC increased from 40% in the first quarter to 55% in the last quarter, the yield of HIV-positive children identified declined from 2.8% to 1.6%.

Conclusions: Next steps: Integrating PITC within pediatric wards is a good strategy to identify HIV-infected children. Introducing PITC as a planned routine service, including routine monitoring through existing structures contributes to sustained efforts and needs to be promoted, in particular, at high volume hospitals. With declining positivity rates due to increased coverage it becomes important to analyze the yield from PITC within pediatric wards and balance it with earlier case finding strategies to maximize yield.

Implementation of Routine Viral Load Monitoring in a Large Urban Clinic in Uganda

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Background: Routine viral load (VL) monitoring has recently been introduced in Uganda. In order to achieve the third 90-90-90 (90% of patients on ART with undetectable VL) target set by UNAIDS, it is paramount that patients failing ART are promptly switched to another treatment. We evaluated actions taken for patients with VL >1,000 copies/ml accessing care at the Infectious Diseases Institute, a large urban HIV Centre in Kampala, Uganda.

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Conclusions:

Despite the implementation of internal health system to manage patients failing ART, we found substantial leakages in the monitoring “cascade”. Additional measures and stronger clinical supervision are needed to make every test count, and to ensure appropriate management of patients failing ART.
THPEE465

MULTI-MONTH SCRIPTING FOR ART: A FRAMEWORK TO OPTIMIZE RAPID ADAPTION AND SCALE UP IN UGANDA

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Background: WHO recommends less frequent medication pickups (3-6 months) for people stable on antiretroviral therapy (ART). Multi-month scripting (MMS) for ART provides an opportunity for willing, stable patients and the health systems that serve them to maintain positive health outcomes and potentially reduce costs. We provide a framework, which identifies challenges and opportunities to optimize rapid and successful scale-up of MMS in Uganda.

Description: To combat a national HIV prevalence of 7.3% and support nearly 1.5 million people eligible for ART, the Uganda Ministry of Health incorporates 3-4 monthly drug refill for patients stable on ART in its National HIV and AIDS Strategic Plan 2015/2016 - 2019/2020 (NSP). Results from MMS pilot programs internationally are promising. For instance, stable patients in a Médecins Sans Frontières (MSF) program in Malawi attend clinic once every six months and once every three months to collect their ART. Retention in care at 12 month follow-up was 97%. Similarly, pilot sites in Uganda show promising results for decentralizing ART. Our analysis of recent literature, case studies, and guidelines (including WHO treatment guidelines, the Ugandan National Antiretroviral Treatment guidelines, and the Uganda NSP) provides a framework to optimize rapid adaptation and scale-up of MMS for ART in Uganda.

Conclusions/Next steps: We found five common factors key to successful MMS implementation:

1) permissive policy,
2) empowered providers,
3) a patient-centered focus,
4) a robust commodity platform, and
5) an appropriate monitoring and evaluation (M&E) plan.

Table 1: A framework to optimize rapid adaptation and scale-up

<table>
<thead>
<tr>
<th>Factors Key to Success</th>
<th>Essential components</th>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permissive policy</strong></td>
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<tr>
<td>1) Allow the dispensation of 3-4 months of ART;</td>
<td>1) Uganda’s current norm is 2 months of ART but existing policy supports extension of MMS;</td>
<td>1) Policy changes required for further task-shifting</td>
<td></td>
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<tr>
<td>2) Enable community health workers to dispense ART;</td>
<td>2) MMS program is potentially cost-saving</td>
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<tr>
<td><strong>Empowered providers</strong></td>
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<tr>
<td>1) Train community health workers to monitor adherence;</td>
<td>1) Existing policy emphasizes “nurse-driven” care;</td>
<td>1) Under-developed community systems;</td>
<td></td>
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<tr>
<td>2) Train nurses to supervise community health workers;</td>
<td>2) MMS can relieve overcrowded clinics;</td>
<td>2) Developing and supporting new training programs;</td>
<td></td>
</tr>
<tr>
<td>3) Strengthen provider toolbox with mHealth</td>
<td>3) mHealth shown to improve adherence in community health workers</td>
<td>3) Developing and supporting new community health workers</td>
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<tr>
<td><strong>Patient-centered focus</strong></td>
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<td></td>
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<tr>
<td>1) Identification of stable patients eligible for MMS program;</td>
<td>1) Patient desire for convenience;</td>
<td>1) Determining the clinical and immunological requirements for eligibility;</td>
<td></td>
</tr>
<tr>
<td>2) Community-based ART dispensation;</td>
<td>2) Prior success of community-based programs in Uganda</td>
<td>2) Identification of communities for rapid roll-out of MMS programs;</td>
<td></td>
</tr>
<tr>
<td>3) Community-based monitoring of adherence and treatment failure</td>
<td>3) Streamlined care for patients who fail treatment</td>
<td>3) Developing and supporting new community health workers</td>
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</tr>
<tr>
<td><strong>Robust commodity platform</strong></td>
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</tr>
<tr>
<td>1) Forecast models to ensure stable ART availability as sites convert to MMS;</td>
<td>1) 80% coverage with viral load targeted for 2017 in Uganda</td>
<td>1) Needed improvement in supply chain management systems;</td>
<td></td>
</tr>
<tr>
<td>2) Viral load and laboratory availability</td>
<td>2) Fear of stock-outs at sites converting to MMS</td>
<td>2) Fear of stock-outs at sites converting to MMS</td>
<td></td>
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<tr>
<td><strong>Appropriate M&amp;E plan</strong></td>
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<tr>
<td>1) Frequent and robust documentation of all MMS participants;</td>
<td>1) Successful MSF Malawi protocol can be used as prototype</td>
<td>1) Transferring data from community sites to evaluators;</td>
<td></td>
</tr>
<tr>
<td>2) Training all health workers in monitoring purpose and methods</td>
<td>2) Determining reasons for patient drop-out</td>
<td>2) Determining reasons for patient drop-out</td>
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</tbody>
</table>

Conclusions/Next steps: While there may be some barriers to the implementation and sustainability of MMS for ART in Uganda, the potential benefits to the stable HIV-positive patient and to the Ugandan healthcare system should outweigh these challenges. The proposed framework will assist in identifying and mitigating some of these challenges.

References:

B. Andrew, V. Kiggundu, T. Minior, R. Ferris.

THPEE466

TOLERABILITY OF SECOND-LINE ANTIRETROVIRAL THERAPY (ART) AMONG PATIENTS IN A RURAL HIV CLINIC: TASO UGANDA


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The expansion of access to Antiretroviral therapy (ART) in sub-Saharan Africa has led to an increase in number of patients requiring second-line ART. We conducted an analysis of ART patients at the AIDS Support Organization (TASO) clinic in Jinja, Uganda who had been switched to second-line therapy to assess tolerance and immunologic response after six months of second-line ART.

Methods: We enrolled participants who have been receiving a Non-Nucleoside Reverse Transcriptase Inhibitor (NNRTI)-based first-line ART regimen for at least four years at TASO-Jinja. TASO patients are monitored every one to three months with CD4 cell count testing every six months. Routine viral load (VL) monitoring is not available. We measured HIV VL at study enrollment. Patients with VL<1000 copies/mL were counseled on adherence and asked to return in three months for a second VL test. We switched participants to second-line therapy, containing lopinavir/ritonavir if the VL remained >1000 copies/mL. We surveyed patients for 16 medical symptoms related to ART toxicity and measured CD4 cell counts and weight comparing data collected prior to switching and those collected six months afterwards.

Results: Among the 1091 patients screened at enrollment, a total of 118 (10.3%) had VL>1000 copies/mL of whom 97(86%) were subsequently switched to second-line ART. Of those switched 74% were female, the median age was 40 years (Q1-Q3: 35-44) and had been receiving ART for a median of 6.6 years (5.2-7.5 years). We did not observe any increases in reported symptoms six months after switching compared to before switching. Specifically there was no change in reports of diarrhea (2.3% vs. 1.2% p=0.56). We noted marginally significant decreases in reports of headaches (9.3% vs. 2.3%, p=0.06) and pruritus (9.3% vs. 3.2%, p=0.06). We also observed a non-significant increase in CD4 counts from 218 to 223 cells/mm3 (p=0.37). Participants who switched drugs also had significant gain in weight with median 56 (Q1-Q3: 52.6-57) to 57 (Q1-Q3: 53-63) kg (p=0.04).

Conclusions: Second-line therapy appears to be very well tolerated in this setting. Among patients switched to lopinavir/ritonavir, the weight increased and a trend towards increases in CD4 cell counts after six months of therapy observed.

THPEE487

HIV PREVENTION, TREATMENT AND CARE PROGRAMMES FOR STUDENTS AND STAFF AT TECHNICAL VOCATIONAL AND EDUCATIONAL (TVET) COLLEGES IN SOUTH AFRICA


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Background: The goal of this study was to assess HIV prevention, treatment and care programmes and services available to students and staff in the TVET sector in South Africa.

Methods: We conducted a national cross-sectional survey to assess HIV prevention, treatment and care programmes and services available to students and staff with a sample of 4,500 students and 900 staff in all 50 TVET colleges. The study utilized a multi-stage cluster sampling design to select a sample of campuses and classes within campuses. All students at the sampled class and all staff at the sampled campus were eligible to participate.

Results: Seven in 10 students and staff obtained their services from government health facilities, 13% of students and 35% of staff from medical doctors, and while 8% students and 32% of staff from private health facilities. Approximately 68% of staff members used TV, 59% radio and 48% newspapers to access information on HIV, while the figures for students were 20% for TV, 20% for radio and 17% for newspapers. Online and social media were used much less frequently than traditional mass media to obtain information on HIV.

Overall, TVET colleges did not rank highly as a source of information on HIV for their students and staff. TVET colleges in some provinces were more likely to be mentioned as a source of information. The South African stock exchange (8%), Western Cape (23%) and Eastern Cape (22%). Only 16% of respondents in the Free State indicated that their colleges provided information on HIV.
Lessons learned: Students and staff both relied overwhelmingly on government health facilities and AIDS-related health services. Staff members used the mass media quite extensively for HIV and AIDS information; only a minority of students did the same.

Background: Following the 2013 WHO consolidated guidelines on antiretroviral therapy (ART), the Angola National AIDS Control Institute changed ART standard treatment guidelines (STGs) from AZT-based to TDF-based regimens as the preferred first-line regimen for adults initiating ART. One year after dissemination of the new STGs, health facilities reported continued high use of AZT, despite sufficient availability of recommended TDF-based products.

Conclusions/Next steps: First, regular review of ART data in compliance with recommended guidelines is important in establishing a gap in practices that significantly influences the performance of the supply chain. Second, establishing a continuous two-way communication between supply chain managers, prescribers, and dispensers contributes to ensure the availability of recommended ARV formulations, allowing STG compliance and better patient care. Using existing coordination mechanisms such as facility Drug and Therapeutics Committees can provide substantive improvement, thereby reducing the risk of stock-outs of wrongly over-utilized products while avoiding wastages of under-prescribed products.

THPEE470

FOLLOW-UP AND PROGRAMMATIC OUTCOMES OF HIV-EXPOSED INFANTS REGISTERED IN THE LARGEST HIV CENTRE. LILONGWE. MALAWI. 2012 - 2014

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Background: The Martin Preuss Centre (MPC), Lilongwe, Malawi, provides integrated care to People Living with HIV and HIV-exposed infants and children. The aim of the study was to assess follow-up and programmatic outcomes of HIV-exposed infants at MPC from 2012-2014.

Methods: Retrospective cohort study using routinely collected HIV-exposed infant data of registered from 2012-2014. Data for HIV-exposed infants were collected using national standardised patient charts and then entered in customised Microsoft access database. Descriptive analysis was done using STATA 13.0 (Stata Corp.,
College Station, Texas). Data were analysed using frequencies and percentages.

**Results:** A total of 1,035 HIV-exposed infants registered from 2012-2014. Of the total, 844(81%) infants were registered after 6 weeks of age (median age = 32 weeks). IQR: 10-59 weeks. Guardians were usually mothers, mostly on antiretroviral therapy. Missing data in baseline characteristics ranged from 2%-36%. By 24 months 96% of the infants available to be tested got HIV-tested; 8% of the HIV-tested infants were HIV-positive and of these 43% started antiretroviral therapy. Overall, 501(48%) HIV-exposed infants were declared lost-to-follow-up in the database. Of these, 346(69%) were line-listed for tracing; of these, 271(78%) had lost-to-follow-up status confirmed by patient charts; of these, 138(51%) were traced; and of these, 86(62%) were truly not in care, the remainder being wrongly classified. Commonest reasons for true lost-to-follow-up were mother/guardian unavailability to bring in infants to MPC, forgetting clinic appointments and transport expenses. There were 31 children brought back to care, leaving 55(40%) of those traced still lost-to-follow-up.

**Conclusions:** Active tracing of HIV-exposed infants contributed to improving retention in care of HIV-exposed infants. However, there is need to improve programmatic data documentation and better follow up and link HIV-positive children to antiretroviral therapy.

**THPEE471**

**REACHING THE FIRST 90% IN A GENERALIZED EPIDEMIC: WHAT ELSE WILL IT TAKE?**

Zimbabwe. The objective of our targeted assessment was to establish current rates of HIV test yields and documented linkage of HIV positive (HIV+) individuals to care and treatment.

**Methods:** A simplified probability proportional to size technique was used to select 11 health facilities in Makoni and Mutare Districts of Manicaland Province. In this retrospective cohort analysis, all individuals testing HIV+ between January and March 2015 were traced through facility registers to document subsequent access to HIV care and treatment services. De-identified data was entered into Microsoft Excel and analyzed descriptively using Stata®12.

**Results:** Among the 4,398 with documented HIV testing, result receipt outcomes were missing for 13.5% (n=575). HIV+ results were documented for 10.6% of those tested. Cumulative ‘losses’ due to undocumented outcomes resulted in over half of all individuals identified as HIV+ (n=290; 62%) subsequently disappearing from the HIV care and treatment cascade.

**THPEE473**

**HIV TESTING IN THE WORKPLACE AS A COLLECTIVE EFFORT: THE IMPESS OF LOTTERY INCENTIVES**

Great documentation losses occurred at linkage of PLHIV from testing to pre-ACT care (36.4%; n=170) and ART eligibility assessment (19.3%; n=57). Process evaluation findings revealed need for standard operating procedures to guide documentation of patient outcomes following referral and patient transfers.

**Conclusions:** Our assessment revealed a large proportion of indeterminate outcomes among individuals accessing HIV testing, care and treatment services. Such undocumented outcomes will pose extreme challenges to accurate determination of 90-90-90 goals. In the short term, enhanced standard operating procedures are required to systematically document patient referrals and outcomes. Support is required to pursue MOHCC-led implementation of feasible and effective electronic patient monitoring systems in the HIV care and treatment program.
workers’ intention to test for HIV was not based solely on a chance to win a lottery prize. The qualitative data revealed that the introduction of the lotteries renewed employees’ personal interest in HCT. The excitement facilitated social interactions and seemed to mitigate the burden of HIV stigma.

Conclusions: The announcement of lotteries made shop-floor workers develop a stronger intention to participate in workplace HIV testing through anticipation of stronger social support and encouragement from partners, friends, and colleagues. Participation in HCT did not seem to hinge only on the likelihood of winning a prize. The results showed the importance of providing an opportunity to openly discuss HIV testing and permitting HIV testing to become socially sanctioned and seen as part of a collective effort.

THP4E474 STRENGTHENING REFERRAL LINKAGES TO TREATMENT FOR KEY POPULATIONS WHO TEST POSITIVE TO HIV IN PORT-HARCOURT CITY, RIVERS STATE, NIGERIA: INNOVATIVE STRATEGIES AND LESSONS

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Background: Early diagnosis and linkage to treatment for persons who test positive to HIV is critical for viral suppression in such individuals. Programme data collected between 2013-2015 on the Strengthening Health Information and Programme Services (SHIPS) project shows that Key Populations (KPs) who test positive to HIV do not have effective access to early treatment and linkage to continuum of care in the project location.

Description: The SHIPS project aimed at improving the health of people in Nigeria by reducing the prevalence of HIV among MARPs initially had challenges with linkage to treatment. Access to treatment services by project beneficiaries was challenging and as such positive KPs referred were lost to follow up. To address this gap, referral methodologies adopted included: - Counselor testers or Guardian Angel Escort services. - Motivation and Referred for HIV Counselor tester. - Phone tracking either Health Care Worker or counselor tester initiated. - Partnering with treatment partners. - Community Transport Services (CTS) either prearranged or public services. - Health Care Worker integration through ‘Drop in center’.

Lessons learned: Between May and December 2015, a mix of these strategies were adopted (tested) to improve referrals. The percentage of KPs successfully linked to treatment improved from 0% in previous months to 58% on the average. Lowest rate achieved was 17% in the first month (May), which peaked at 81% in third month (July), and plateaued at 62% and above in the last months. The following lessons were learnt:

- Improving KPs access to early treatment requires a mix of referral approaches.
- Non-financial motivation and reward of ‘high achievers’ counselor testers promote community drive to achieving results.

Conclusions/Next steps: There is need to report mainstream referral strategies into country’s prevention plan and HIV Counseling and Testing protocol.

- Capacity building as a means of non financial motivation and reward of counselor testers should be Institutionalized.
- There’s need to explore public private partnerships to improve CTS for positive KPs.

THP4E476 IMPLOD IGALA EKHIYAA HEALTH STARTS AT HOME: LINKAGE TO CARE AND TREATMENT INITIATION FOLLOWING HOME-BASED SCREENING IN RURAL SOUTH AFRICA

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Background: In order to reach 90-90-90 targets and decrease morbidity and mortality from HIV, the South African health system must scale up identification of HIV- positive individuals and early linkage to antiretroviral therapy (ART). However, there is no consensus about the most effective delivery model at this crucial step in the cascade of care, particularly in rural areas plagued by staff shortages. There is an urgent need for operational data to produce scalable models that successfully engage South Africa’s marginalized rural citizens.

Description: From February to December of 2015, 11 lay community health workers (CHWs) performed 2898 screenings in traditional Zulu homes, integrating tuberculosis symptom screening, noncommunicable disease screening, and HIV counseling and testing (HCT). Among participants, 2388 (82.4%) were women, median age was 42 years (IQR 27-60), 188 (6.5%) were already taking ART, and 1470 (50.7%) agreed to HCT. Among those undergoing HCT, 27.5% reported never having tested before. CHWs identified 75 participants in need of linkage to HIV care, including 46 who were newly diagnosed and 29 with previously known HIV-positive status not yet on ART. CHWs then provided counseling, phone calls, repeat visits, and in some cases transportation to local clinics.

Among those newly diagnosed, median age was 33 years (IQR 26-42). Thirty-two (70%) were linked to care with a median time to linkage of 3 weeks. Of those linked to care, median CD4 count was 301 (IQR 252-508) and 23 (72%) subsequently initiated ART. Among those with previously known status, 17 (58%) were linked to care and 13 (66%) initiated ART. In total, 49 participants were linked to care and 34 initiated ART.

Lessons learned: Home-based HCT and linkage is most successful when CHWs visit repeatedly, developing relationships of trust with their neighbors. More than 80% of those tested and found to be HIV-infected were women; alternative community-based strategies are needed to test and link men.

Conclusions/Next steps: Trained CHWs effectively identified community members living with HIV and linked them to care. Home-based screening in rural KwaZulu-Natal uncovers high-risk groups who do not routinely test for HIV, particularly young women, and provides opportunities for critically timed ART.
**THPE477**

**FACTORS ASSOCIATED WITH WEIGHT GAIN AMONG ADULT PATIENTS INITIATING ANTIRETROVIRAL THERAPY IN PORT HARCOURT, NIGERIA: A RETROSPECTIVE COHORT STUDY**

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**Background:** Weight loss is a significant problem among HIV-positive patients. Although initiation of ART is often associated with weight gain and increased protein synthesis, lean tissue is not restored in some patients. Furthermore, weight gain among patients initiating antiretroviral therapy (ART) has been associated with survival. However, factors associated with weight gain among patients initiating ART have not been adequately described. This study aimed to identify predictors of weight gain over two consecutive six-month intervals among HIV-positive patients initiating ART in a health facility in Port Harcourt, Nigeria.

**Methods:** We reviewed clinical records of a cohort of HIV-positive patients who were 15 years or older who initiated ART at a hospital in Port Harcourt, Nigeria between January 1, 2010 and December 31, 2014. Age, gender, occupation, employment, education, marital status, tuberculosis status, CD4 count, haemoglobin at baseline (prior to initiation of ART), initial ART regimen, drug adherence and weight at baseline, six and twelve months were measured. Generalized estimating equation (GEE) modelling with a logit link was used to determine predictors of weight gain over the two consecutive six-month intervals.

**Results:** Of the 596 HIV-positive patients included in this study, 403 (67.6%) were women and the mean age was 29.0 ± 9.5 years. During the follow-up period, 38.4% and 28.8% of the patients had weight gain of 1kg or more following ART initiation in the first and second intervals respectively. Predictors of weight gain include male gender [adjusted Odds Ratio, aOR = 1.29, 95% CI: 1.12-1.48], being married [aOR =0.86, 95% CI=0.76-0.96], use of contraceptives [aOR =1.12, 95% CI=1.01-1.23], WHO stage 3 [aOR = 1.51, 95%CI= 1.12-2.02], patients considered as tuberculosis (TB) suspects [aOR = 1.87, 95%CI= 1.26-2.62].

**Conclusions:** The proportion of HIV-positive patients who had weight gain of 1kg or more within twelve months of initiating ART was low in this cohort. Various baseline factors contribute to weight gain in this population, including gender, marital status and use of contraceptives. Knowledge of these factors can assist in ensuring that HIV-positive patients achieve optimal weight gain following the initiation of ART.

**PMTCT program.** Some women said that the frequency of clinic visits and the use of a special room or day of the week for PMTCT effectively disclosed their status publicly, contributing to stigma. Men described their role in PMTCT as limited to financial support and encouraging women to take ART. Stakeholders and health workers stated that women are more likely to adhere to ART when their husbands are involved. Nearly all participants stressed the need for community awareness and male sensitization related to PMTCT.

**Conclusions:** To improve women’s long-term participation in PMTCT, programs should support women’s HIV disclosure by encouraging couples’ counseling and testing, developing acceptable strategies to broaden male involvement, and facilitating stigma reduction activities in communities.

**THPE479**

**ELIMINATION OF MOTHER TO CHILD TRANSMISSION OF HIV: GAPS IDENTIFIED IN URBAN PRIMARY HEALTH CARE FACILITIES IN JOHANNESBURG, SOUTH AFRICA**

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**Background:** The World Health Organization’s four prongs to eliminate Mother-To-child transmission (eMTCT) of HIV and improve maternal health include:

1. Primary prevention of HIV infection in women.
2. Prevention of unplanned pregnancies in HIV-positive women;
3. Prevention of vertical HIV infection through ART prophylaxis;
4. Treatment of HIV-positive women and their families.

While programmes have prioritised prongs 3 and 4 with success, implementation gaps remain. This study evaluated the uptake and potential gaps in services related to the eMTCT and maternal health programme in Johannesburg, South Africa.

**Methods:** We conducted a cross-sectional study between October 2015 and January 2016, at 2 primary health clinics in inner-city Johannesburg. Eligible postnatal women (>18 years old) attending immunization visits with their infant (< 18 months old) were approached for consent and interviewed on their uptake of comprehensive eMTCT services. All consenting mothers and infants of zero-positive mothers were tested for HIV at study enrolment.

**Results:** Among 349 postpartum mothers, 215 (62%) were HIV-positive at study enrolment, with 9/139 (6.5%) reportedly HIV-negative in pregnancy subsequently testing positive at study enrolment. Two thirds of women (234/349) attended their first ANC visit in the 2nd and 3rd trimester and 75% (261/349) attended the recommended 4 ANC visits. A high number of women reported unplanned pregnancy, 66% and 67% of HIV-negative and -positive women, respectively. While 34% of HIV-negative women reported that their partner had multiple sexual partners, only 20% used condoms during their pregnancy. The median age of infants at enrolment was 3.3 (IQR: 1.5-9) months and the HIV transmission rate was 0.9%. Postpartum, 294 (84%) women accessed family planning, with 52% (152/294) choosing injectable contraception.

**Conclusions:** This study demonstrated many successes and a few missed opportunities in the implementation of all 4 WHO eMTCT strategies. Gaps identified related to unplanned pregnancy and prevention of new HIV-infections. Increased efforts to reinforce condom use are necessary. High pregnancy or postpartum HIV transmission rates in women increase the risks of HIV transmission to infants and regular retesting post-partum is essential. Therefore, amid successes, prongs 1 and 2 of the WHD eMTCT strategy require increased focus in programmatic settings.

**THPE480**

**CHALLENGES AND OPPORTUNITIES FOR IMPROVING EARLY INITIATION OF ART: A THEMATIC ANALYSIS OF EXPERIENCES AMONG INDIVIDUALS RECENTLY DIAGNOSED WITH HIV**

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**Background:** Clinical guidelines in the province of British Columbia (BC), Canada, advise individuals diagnosed with HIV to initiate antiretroviral therapy (ART) immediately to improve long-term health outcomes and decrease the likelihood of transmission. This thematic analysis explores individuals’ experiences and attitudes...
towards ART initiation within a setting where ART and related care are provided at no direct cost to patients.

Methods: "Engage" is a prospective cohort study of new ART initiators, nested within the provincial Drug Treatment Program at the BC Centre for Excellence in HIV/AIDS. Between March and August 2015, 20 Engage participants were purposefully recruited: 10 whom initiated treatment "late" (defined as a CD4 cell count of ≤ 500 cells/µl) and 10 whom initiated "early". The framework of the interview guide was designed to elucidate participants’ experiences relating to HIV testing, diagnosis, care, and treatment. A research-trained person living with HIV conducted in-depth interviews. All interviews were recorded and transcribed. Using NVivo 10.2 Software, three researchers thematically analyzed these data.

Results: The participants were 15% female and the median age was 41 years (1st-3rd quartile [Q1-Q3]: 30-47). Participants who reported seeking treatment immediately indicated that they were well informed about ART and wanted to achieve an undetectable plasma viral load (pVL) to minimize transmission. Other themes included minimal concern around medications impacting daily life, and normalization of ART as standard medical practice for HIV. Participants who reported avoiding treatment or care indicated that ART was considered to be a last resort once symptoms provided no alternative, which was due to either stigma (in the form of denial or fear of others becoming aware of their status), or lack of understanding around the individual benefits of ART. Other themes for delaying treatment included doctors presenting ART as optional based on CD4 cell count and pVL levels, and feeling the individual benefits of ART. Other themes for delaying treatment included doctors presenting ART as optional based on CD4 cell count and pVL levels, and feeling the individual benefits of ART.

Conclusions: Education levels around ART efficacy emerged as a common theme for persons seeking and avoiding treatment. These results suggest that scaling up educational initiatives around ART efficacy should be prioritized in order to increase early ART initiation.

THPee481

WHAT INFLUENCES PATIENTS’ PRESENTATION STAGE FOR HIV SERVICES IN RURAL SOUTH-WESTERN UGANDA? A QUALITATIVE INVESTIGATION OF PATIENTS’ VIEWS IN THE CONTEXT OF CURRENT POLICY RECOMMENDATIONS

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Background: Despite recent changes in HIV policies broadening HIV care (e.g. Option B+; revising CD4 threshold for ART initiation to ≤500 cells/µl; pre-ART Cotrimoxazole provision) some patients continue to present late for initiation into the care system which compromises subsequent health outcomes. Less understood are patients’ perspectives on such policy changes and the impact they may have on the stages at which people present for services once they know their HIV status. We therefore conducted a study to understand the influence of HIV care policy changes on the healthcare-seeking experiences of people living with HIV (PLWH) in rural South-western Uganda.

Methods: Thirty-three in-depth interviews were conducted with PLWH sampled from a health and demographic surveillance and ART clinic between September-December 2015. To focus specifically on issues of presentation to services, we randomly sampled 18 ‘timely’ presenters (CD4 ≤500 cells/µl) and purposively sampled 15 ‘late’ and ‘crisis’ participants (CD4 < 500). Interviews were audio recorded, transcribed, translated and analysed thematically.

Results: Generally, participants exhibited no awareness about the policy changes. Reasons for presenting late included: feeling asymptomatic, work-related commitments and mobility. For women, previous HIV negative tests followed by a positive test during pregnancy and inadequate partner support combined with household and childcare chores create obstacles to timely access of services. Other reasons for late presentation, for both sexes, included long queues and clinic waiting time, health workers’ rudeness, transport costs and fear of being seen. Timely presentation for HIV care services for women was supported by exposure to HIV counselling during pregnancy, having children and a desire to stay alive to facilitate children’s future plans. Loss of dear ones due to HIV motivated men and women to seek care. Campaigns about ART effectiveness and being open about one’s own HIV status also influenced care-seeking decisions.

Conclusions: Despite areas of policy improvement which enable access to HIV services there remain individual, societal and facility-level obstacles to timely presentation for HIV services in our study area. Some of these can be ameliorated through programme-specific reviews and investment in the local HIV services quality to better meet the needs of PLWH.
**THPEE483**

**LINKING HIV TESTING CLIENTS TO TREATMENT AND MEDICAL MALE CIRCUMCISION SERVICES: RESULTS FROM NEW START HTS SERVICES IN FOUR DISTRICTS IN SOUTH AFRICA**

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**Background:** The South African National Strategic Plan (2012-2016) recommended that screening for HIV must take place in multiple settings including communities, workplace, schools and tertiary institutions. The Society for Family Health franchise network New Start, provides mobile and homebased HIV testing services (HTS) to these populations and facilitates their referral and linkage into care, treatment and medical male circumcision (MMC). Clients that require referral services are provided with a referral letter. 48 hours post-referral the coordinator makes follow-up calls to clients, which includes confirming with the clinic to verify effective linkage.

**Methods:** We analyzed 163 445 New Start HTS client referral records from October 2014 to September 2015 from four districts. Statistical analysis for quantitative data was conducted using SPSS version 23 and thematic content analysis was used for open ended qualitative data retrieved from the same client records.

**Results:** Overall, 3% (5104/163 445) of all HTS clients were diagnosed HIV positive with 63% (2931) of these being female. Of the positives, 36% (1856) accepted referrals for antiretroviral therapy (ART)/care and services, and 80% (1495) of the acceptors completed referrals. Of the HIV positive female clients, 34% accepted referrals as compared to 41% of their male counterparts. 59% of the HIV positive females completed ART referrals compared to 64% of males (p=0.001).

Of the 4,975 men referred for MMC, 100% accepted referrals and of these 60% completed MMC referrals. Referral completion for MMC was higher among HTS clients reached with mobile services than among clients reached through homebased and static services; 64%, 54%, and 50% respectively (p=0.035). The main reasons given for not completing referrals were: other competing priorities, being at work, being in school and structural barriers such as lack of transport and psycho-social barriers.

**Conclusions:** Overall these findings show that acceptance of referral to ART among HIV positive HTS clients is low, though referral completion rates are high. Findings also show that referral completion for MMC was low, while referral acceptance was universal. Program could strengthen referrals for MMC services inter alia address identified barriers to referral acceptance and completion.

**THPEE485**

**OPTIMIZING THE RESPONSE OF PREVENTION AND TREATMENT: ESTIMATION OF THE COSTS OF PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV (PMTCT) IN NIGERIA**

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**Background:** HIV burden in Nigeria is heavily borne by women and the national program has responded by, among other actions, expanding Prevention of Mother-to-child Transmission of HIV (PMTCT) services. This intervention requires an integrated ‘cascade’ of services which can reduce the risk of vertical transmission, and is fraught with challenges that need to be addressed such as: poor domestic fund- ing, donor dependency, and inadequate political willpower at state and local levels, among others. The objective of this work is to estimate average costs of services along the PMTCT cascade of services and to analyze the determinants of efficiency of PMTCT in Nigeria.

**Methods:** A cross-sectional observational study was conducted in Nigeria. A nationally representative sample of 194 facilities was selected, with data collection between December 2014 and May 2015. Applying micro-costing methods, relevant in- puts (personnel, supplies, utilities, equipment and property) and output data were collected retrospectively for 2013. Staff costs were computed with self-reported time allocation methods. Quality was captured by administering medical provider- vignettes and patient-exit interviews.

**Results:** Average cost per PMTCT client tested was US$ 72; US$ 3,022 per client tested and positive; US$ 5,563 per client on ART; and US$ 4,558 per infant on prophylaxis. 62% of PMTCT costs per client tested were accounted for by staff costs; followed by HIV antiretroviral drugs (12%); HIV test kits (9%); utilities (9%); capital (6%); and training (2%). Costs varied across levels of care, with less cost per client tested in third level of care. Higher numbers of clients were correlated with lower average costs per client tested. The negative relationship between costs and scale explained around 50% of the variability of unit costs.

**Conclusions:** Our findings showed enormous variability in costs and opportunities to increase efficiency across facilities. Due to the high proportion of the overall cost that staff comprises, optimizing human resources allocation is fundamental to increasing efficiency. Expanding the volume of PMTCT services will improve levels of efficacy in the HIV prevention response, as long as acceptable levels of quality are maintained throughout different levels of production.

**THPEE486**

**THE INVISIBLE KILLER: A PILOT PROJECT ON CRYPTOCOCCAL MENINGITIS SCREENING, DIAGNOSIS AND MANAGEMENT IN HIGH VOLUME HOSPITALS IN ETHIOPIA**

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**Background:** Cryptococcal infection is a leading cause of death among people living with HIV/AIDS (PLWHIV). The mortality from cryptococcal meningitis (CM) in Ethiopia remains high mainly due to late diagnosis. To improve early diagnosis and HIV/AIDS treatment outcomes, the WHO conditionally recommended routine serum or plasma Cryptococcal Antigen (CrAg) screening in ART-naive adults with a CD4 count < 100 cells/µl in populations with CrAg prevalence >3%. CHAI, in collaboration with MoH & ICAP implemented a pilot cryptococcal screening project using rapid test kits (RTKs) aimed at generating data on CrAg prevalence among patients with CD4 counts < 100 cells/µl and determining the feasibility of using RTKs.

**Description:** The pilot targeted 23 high volume hospitals from June 2015 to June 2016. CHAI in collaboration with MoH and ICAP developed a CM screening algorithm, job aids, testing SOPs, and patient tracking tools. CHAI also procured and distributed CrAg lateral flow Assays (LFA). Sensitization meetings, training, and mentorship were conducted. The pilot further ensured that the RTK proficiency testing yielded accurate results through external quality assurance (EQA) in 14 hospitals. Costing for health commodities was also conducted.

**Lessons learned:** Between June to November 2015 (mid-term analysis), 410 ART naive adult clients with CD4 count ≤ 100 cells/µl have been tested, of which 348 (3.3%) were CrAg positive (Table 1). In addition, a significant proportion (23%) of clients...
were enrolled at CD4 counts <100 cells/µl. The EQA indicated 100% concordance for both strong positive and strong negative samples and 92.9% (n=13) concordance for weak positive samples. The cost of managing CM is ten times as high (~$380) as screening and prophylaxis.

Conclusions/Next steps: The prevalence of CRg among ART naive clients with CD4 count < 100 cells/µl calls for introduction of CRg screening in HIV chronic care. Despite the increase in the ART eligibility criteria from CD4 350 to 500 cells/µl, data from this pilot indicates that significant number of clients are still presenting late and are therefore susceptible to developing life threatening opportunistic infections, including CM. Screening for CRg using RTKs is feasible and is also cost saving in resource-limited settings.

THPEE487 INVESTIGATING THE STATUS AND BARRIERS TO SCALE UP OF PAEDIATRIC PROVIDER-INITIATED TESTING AND COUNSELLING IN MALAWI

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Background: Malawi’s paediatric HIV coverage at 49% lags significantly behind adult coverage at 67%, and an estimated 50,000 children living with HIV who are in need of antiretroviral therapy (ART) remain untreated. Identifying all HIV+ children and linking them to treatment is critical to achieving the UNAIDS 90-90-90 targets. Malawi has had a provider-initiated testing and counselling (PITC) policy since 2009; however, a large number of children remain undiagnosed. An assessment was conducted to review the performance and uptake of paediatric PITC, understand the quality of services provided, and identify barriers and potential solutions to increase uptake.

Methods: A mixed methods assessment was conducted in 2015 at 38 facilities in six districts prioritized by high estimated paediatric treatment gaps. Quantitative data was collected through reviews of HIV testing and counselling (HTC) and admission registers from 2014 in outpatient, inpatient and nutrition wards. Qualitative data was compiled through surveys with HIV Service Providers (clinicians, HTC counsellors, EID and ART focal persons) about their experience with paediatric PITC and infant testing.

Results: Across all facilities, a median of 1.1% of children receiving outpatient or inpatient health services were tested via PITC, and a median of 6% of children tested positive. In facilities with inpatient wards, a median of 7% of admitted children were tested via PITC, with 10.4% testing positive. Paediatric testing efforts have been mainly focused on the exposed infant population through the PMTCT programme: most children were tested via PITC, with 10.4% testing positive. Paediatric testing efforts have been mainly focused on the exposed infant population through the PMTCT programme: most children were tested via PITC, with 10.4% testing positive. Paediatric testing efforts have been mainly focused on the exposed infant population through the PMTCT programme: most children were tested via PITC, with 10.4% testing positive.

Conclusions: The assessment demonstrated that paediatric PITC uptake in Malawi is extremely low and needs to be strengthened to scale-up paediatric ART coverage and improve health outcomes. The assessment results informed the development of the Malawi 2016 HIV Testing Services guidelines, ensuring an adequate focus on paediatric case finding strategies, and will be used to inform the operationalization of HIV testing strategies.

THPEE488 TARGETED SPONTANEOUS REPORTING: SCOPING OPPORTUNITIES TO CONDUCT ROUTINE PHARMACOVIGILANCE FOR ANTIRETROViral TREATMENT ON AN INTERNATIONAL SCALE

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Background: Increasing numbers of HIV-infected people receive antiretroviral treatment (ART), driving a need to enhance global drug safety monitoring. Targeted Spontaneous Reporting (TSR) is a cost-effective pharmacovigilance method that has great potential to enhance reporting of ART-related adverse events. However, as a new pharmacovigilance approach, the feasibility of TSR, notably in low- and middle-income countries (LMICs), is unknown. Using data from an international epidemiologic Databases to Evaluate AIDS (iDEA) Consortium, we sought to 1) develop a list of facility characteristics that constitute key assets in the conduct of TSR, and 2) describe the existing capacity of iDEA-participating facilities to conduct TSR.

Conclusions/Next steps: Spontaneous Reporting (TSR) is a cost-effective pharmacovigilance method that has great potential to enhance reporting of ART-related adverse events. However, as a new pharmacovigilance approach, the feasibility of TSR, notably in low- and middle-income countries (LMICs), is unknown. Using data from an international epidemiologic Databases to Evaluate AIDS (iDEA) Consortium, we sought to 1) develop a list of facility characteristics that constitute key assets in the conduct of TSR, and 2) describe the existing capacity of iDEA-participating facilities to conduct TSR.

<table>
<thead>
<tr>
<th>Category</th>
<th>Variables</th>
<th>Rationale</th>
<th>Overall Capacity of Included Facilities, Total n=137</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome Assessment and Follow-up</td>
<td>Follow-up key populations:</td>
<td></td>
<td>Follow up key populations:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patients lost to followup are a source of selection and ascertainment bias in evaluation of adverse events (AEs). The ability to know and document outcomes among key populations like pregnant women and children is especially important. Service fees can inhibit patient retention in care and routine ordering of laboratory tests and other services that can identify AEs</td>
<td>Follow up key populations:</td>
</tr>
<tr>
<td>Laboratory Monitoring</td>
<td>Laboratory monitoring including baseline and follow-up testing is necessary for detection, identification, and confirmation of AEs</td>
<td></td>
<td>On site availability of:</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>• HIV RNA PCR: 32.6% • CD4 Count: 32.6% • Hemoglobin: 72.3% • Total lymphocytes count: 52.4% • Lactate: 51.1% • Cholesterol: 41.8% • Creatinine: 51.8% • Blood glucose: 33.8%</td>
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<td></td>
<td>Turnaround time range: &lt;100 days</td>
</tr>
<tr>
<td>Documentation: Sources and Management of Data</td>
<td>Unique patient identifiers, Presence of an electronic database, Medical history, History of opportunistic infections (history and follow-up), Cancer history, Linkage to pharmacy database, AE files and their outcomes, Classification system for AE files and use of standard definitions, Availability of internet</td>
<td></td>
<td>These data are needed to identify AEs, support TSR activities, and link clinical and pharmacy visits to understanding patterns of drug use and their association with AEs. Critical information includes a unique identifier, patient’s medical history and clinical status at follow-up to document any changes, standardized text on data capture instruments. Longitudinal patient data including medication, clinical and AE data are needed to appropriately classify AEs and report the outcomes.</td>
</tr>
<tr>
<td>Human Resources</td>
<td>Availability of physicians, pharmacists, pharmacy assistants and data recorders (to record AEs)</td>
<td>Core clinic staff are required to identify, capture and report AEs</td>
<td>Full time pharmacist: Median: 1 per weekday (Range: 0-32) Pharmacy assistants: Median: 1 per weekday (Range: 0-32) Pharmacy to assess events: Median 2 per weekday (Range: 0-32) Data capturers: Median 1 per weekday (Range: 0-32)</td>
</tr>
</tbody>
</table>

(Rationale for characteristics explored and capacity of included (iDEA) facilities)
Methods: Our facility characteristics list was generated through a literature review and consultation with expert stakeholders and was used to describe the capacity for conducting TSR. The IeDEA facility data were drawn from a 2009/2010 site assessment that included reported characteristics of adult and pediatric HIV care programs including outreach, staffing, laboratory capacity, adverse event monitoring, and non-HIV care. Descriptive statistics and frequency calculations of characteristics were explored by region and overall category.

Results: We included 137 facilities from: East Africa (43), Asia-Pacific (28) West Africa (21), Southern Africa (19), Central Africa (12), Latin America (7), and North America (7). Key facility characteristics were grouped into those related to Outcome Ascertainment and Follow-up; Laboratory Monitoring; Documentation: Sources and Management of Data; and Human Resources. Based on the reported presence of key facility characteristics, most facilities had adequate structures in place to support TSR, including clinics in LMICs.

Conclusions: There is a large existing capacity to conduct TSR. With a few enhancements, especially related to data collection specific to adverse events, TSR could become a standard component of facility activities.

THPEE489
WHAT HAPPENS WHEN PREP IS IMPLEMENTED? EXPERIENCES OF A HIGH VOLUME COMMUNITY-BASED LGBT ORGANIZATION IN NEW YORK CITY

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Background: Following the FDA approval of Truvada for Pre-Exposure Prophylaxis (PrEP) in July 2012, Callen-Lorde Community Health Center (CLCHC) implemented what would be one of the first and largest PrEP programs in the United States.

Description: In 2015, CLCHC delivered 1,050 PrEP prescriptions to patients interested in HIV prevention. An average of 87 patients were prescribed PrEP each month. 77% of patients self-referred for PrEP 14% transitioned to PrEP after completing post-exposure prophylaxis, 4% continued PrEP after participation in a demonstration project, and 5% reported being in an open and/or serodiscordant relationship as a reason. PrEP clients were 18-77 years, with 43% between 28 and 37 years; 32% ≤ 27. The racial distribution was diverse: 58% White/Caucasian, 12% Black and 22% Hispanic/Latino ethnicity. PrEP was accessed via private insurance (57%), public insurance (26%) and by uninsured patients (17%) utilizing medication assistance programs.

Lessons learned: Upon implementation of the program there was high demand for PrEP. Medical staff required dedicated training to manage complex and constantly changing insurance requirements. Uninsured patients had to be linked to medication assistance programs or low/no cost health insurance plans. Insured patients encountered challenges due to high copayments, insurance denials or mandatory mail order delivery programs. Some programs delivered medication to our clinic, which necessitated ongoing tracking and distribution by our staff. The impact on clinic flow was minimized by sharing the tasks of the PrEP visit with a team of providers, testers, nursing and PrEP specialists. New protocols were developed, including one that facilitated patient self-swabs for STD screening. Patient navigation was a key aspect of our program, as was interdepartmental cooperation.

Conclusions/Next steps: As scale-up of PrEP continues, clinics considering implementing PrEP programs need to be prepared for high demand and proactively put systems into place to facilitate patient access, including strategies to deal with complex insurance issues, tracking of patients and quality assurance.

THPEE490
‘MIND THE GAP’: PROGRESS TOWARDS IMMEDIATE ART INITIATION FOR ALL UK PERSONS LIVING WITH DIAGNOSED HIV, 2005 - 2014

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Background: The benefit of treatment as prevention (TasP) will be greatest with immediate ART initiation upon HIV diagnosis. Successful UK guidelines have promoted earlier ART initiation. We compare the cumulative probability of initiating ART by years in a cohort of new early HIV diagnoses (CD4 ≤350) to show the progress made by changing policies. The opportunity remaining is demonstrated by comparison with what is currently achieved for new late HIV diagnoses (CD4 < 350), where universal ART is recommended.

Methods: Multiple ascertainment systems including annual follow-up ensures comprehensive data are available for UK HIV cases. Average linkage to care is 90% and virological suppression is 95% of those on treatment. All 49,683 new HIV diagnoses from 2005-2014 linked to care were analysed. We conducted a Kaplan-Meier analysis of time from HIV diagnosis date to either ART start date or death, or last care attendance date if not on ART by CD4-cell count at diagnosis (< 350 or ≥350) and bi-annual year of diagnosis.

Results: The cumulative probability of initiating ART by 12 months following HIV diagnosis among people with CD4≥350 increased over time from 21% in 2005/6 to 62% in 2013/14 (Figure 1). This trend was sustained over 24 months, though the greatest difference between probabilities initiating happened before 6 months. The increase was greater than among those initiating with < 350 (70% in 2005/6 and 95% in 2013/14). In 2013/14, an additional 33% had started ART by 12 months under universal treatment among CD4 ≥350 compared to TasP among CD4<350.

Conclusions: UK ART policy changes have led to a substantial shortening of the average time to start ART, with most of this improvement happening in the initial 6 months after diagnosis. There remains considerable opportunity to shorten the time further, possibly through offering universal ART regardless of CD4 count.

THPEE491
PREPARING FOR HIV TESTING AND COUNSELING SCALE UP: HIGH-YIELD RAPID ASSESSMENT FOR PLACEMENT OF A PILOT CADRE OF DEDICATED HTC COUNSELORS IN MALAWI

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Background: Despite rapid progress, only 31% of children living with HIV are on antiretroviral therapy (ART). Since HIV testing is a key entry point, the Malawi Ministry of Health (MOH) recommended establishment of a dedicated cadre called HIV Diagnostic Assistants (HDA), responsible for facility-based HIV testing. Our program was asked to pilot the HDA cadre at 124 new sites in the southeast zone of Malawi to increase testing and treatment. The degree of expansion and lack of familiarity with the region demanded a rapid but thorough evaluation before implementation.

Description: We conducted a rapid site assessment of 124 health facilities in six districts to evaluate baseline rates of HIV testing and treatment and barriers to scale-up. Teams including a clinician, M&E, program staff and MOH representative visited two facilities a day on average. Teams assessed human resource, infrastructure, and commodity needs. Sites were evaluated through semi-structured interviews with facility managers and a collection of predetermined observations. Summary measures were tabulated and entered into a database that generated an automated facility-level dashboard for each site. The exercise took six weeks.
Lessons learned: Use of comprehensive but concise tools geared towards rapid assessment allowed efficient collection of key data. Promoting same-day tabulation of key measures allowed rapid and clear feedback. Definitions of common terms must be standardized to allow reproducible measurement of staffing needs; for example using “dedicated HTC counselor” to describe staff whose core responsibility is HIV testing, instead of “HTC counselor” which describes anyone trained to conduct testing regardless of contribution to testing coverage.

Conclusions/Next steps: Assessment results are guiding placement of recruited dedicated pilot HDAs according to ministry TORs. As recruitment proceeds, training on PITC for all facility staff will be expanded. The use of automated facility-level dashboards will continue using a combination of data sources to monitor progress and allow real-time feedback to staff.

THPEE492
PROJECTING HIV HERD IMMUNITY THROUGH HIGH ART COVERAGE AND VISUAL LOAD SUPPRESSION IN KWAZULU NATAL, SOUTH AFRICA

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Background: KwaZulu Natal “in the past twenty three (23) years has recorded the highest HIV prevalence among the 15 - 49 year olds which has remained stable at 37.4% in 2011 and 2012” SANDOH. To succeed in meeting the global target of zero new HIV infections systems had to be put in place. The province has the highest numbers of clients remaining in ART care in the country having recorded 1 039 511 patients at 31 December 2015 (DHIS).

Description: A retrospective quantitative provincial HAST program data review was conducted in January 2016 to establish ART coverage in the province and identify areas with high proportions of new clients testing positive. An instantaneous hazard will be used with the Weibull function to determine the hazard of time since eligibility for treatment. From 2008 scale up strategies had been recommended to improve ART coverage, followed by the nurse initiated ART in 2010 and the high transmission interventions in 2011. ART services had evolved from hospital based services to primary health care and now the province is piloting community based transmission interventions in 2011. ART services had evolved from hospital based and medical consequences of low ARV coverage

THPEE493
PRIORITY FAST TRACKING HIV RESPONSE IN WEST AND CENTRAL AFRICA TO HALT HUMAN AND MEDICAL CONSEQUENCES OF LOW ARV COVERAGE

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Background: While access to HIV treatment expanded worldwide, Médecins Sans Frontières (MSF) witnesses first-hand serious delays in scale-up in West and Central Africa (WCA), where only one in four people living with HIV (PLHIV) have access to treatment and only 15% of children, much below average coverage in Southern Africa. The region accounts for 18% of all PLHIV, 45% of children born with HIV, 21% of new infections and one third of AIDS related deaths. Without urgent acceleration for the region, worldwide plans to reach the 90-90-90 targets by 2020 are in jeopardy.

Description: We investigated key obstacles for expanded antiretroviral treatment (ART) initiation and retention in care in WCA, focusing on contexts where MSF provides HIV services, including three in-depth case studies (DRC, CAR, Guinea). Systematic review of key indicators for ART coverage, enabling factors and strategies including alternative models of care was done.

Lessons learned: Recurrent crises compound problems, but backlog relates mainly to pre-existing health system problems. Integrating HIV care within weak health systems without ensuring equitable access undermines effective, timely and quality HIV-services. Early initiation and retention in care is hampered by frequent stock-outs, financial barriers and lack of staff motivation. Relatively lower HIV prevalence decreases priority for government and international actors. Global Fund is main or only funding source. Resistance to task shifting, lay counsellors, longer periods of drug refills, community approaches etc. prevail. Pressure from patient associations is weak, with insufficient support to groups advocating for PLHIV’s needs and rights, combating stigma and monitoring access barriers.

Conclusions/Next steps: Countries with biggest treatment gaps and most urgent unmet needs have proportionally less benefited from effective scale-up strategies. Governments and international actors need to step up fast track responses to close treatment gaps by adapting existing approaches. Urgent mobilization of all health actors is needed to mitigate barriers to ART initiation and adherence, including ensure HIV testing and testing free of charge for all PLHIV, decentralised &simplified ART provision, task-shifting, guaranteeing uninterrupted supply of HIV-commodities. Prone to crises or instability, relevant and regularly updatedcontinuance plans need to be developed and implemented to ensure continued treatment and enrolment.

THPEE494
POC CD4 IMPROVES EFFECTIVE REFERRALS FROM COMMUNITY TO CLINICAL SETTINGS IN LESOTHO

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Background: Lesotho has a generalized HIV epidemic with an adult prevalence of 23%. Despite this high HIV burden, majority, 84% of women and 63% among men ever tested for HIV, and of those who test positive, only 52% of females and 48% of males have been linked to care. A number of studies have examined the impact of facilitated referrals on linkage to care, but few have looked at the impact of POC CD4 testing using country specific program data.

Description: We conducted a retrospective analysis of 42,605 records of clients 2 years and older, seen between October 2014 and September 2015, through our mobile HTC, home-based and static sites. For each client, data collected included client’s demographics, HIV results and referrals, testing history and uptake of non-communicable diseases. In late 2013, PSI/Lesotho integrated 15 PIMA machines into counselling sessions to improve effective referrals. Machines were used during mobile, home-based and static sites. From a total of 30 counsellors working from these channels, only 15(50%) had access to PIMA while the rest had to refer to nearby clinics or their colleagues. In this case, effective referral is defined as newly diagnosed HIV-positive client from the CDC-funded New-Start project who successfully completed referral to HIV-care by means of referral slip or PRE-ART enrollment within 3 months of diagnosis.
Almost 74.2% with CD4 testing completed referral cycle compared to only 46% amongst those without CD4 testing (p < 0.001). About 78.2% of those with less than 500 CD4 count completed referrals compared to 66.8% among those with higher CD4 count, 500 and above (p < 0.001).

Conclusions/Next steps: A higher proportion of those receiving POC CD4 count were successfully linked to HIV care. Overall, these findings support deployment of more PIMA machines particularly at mobile and stand-alone HIV testing services where there are more HIV positives.

THPEE495
HUMANA PEOPLE TO PEOPLE (HPP) DEMONSTRATED ENHANCED, TIME-BOUND TESTING COVERAGE, LINKAGE TO CARE AND TREATMENT THROUGH HOME-BASED HTC THAT REACHED LARGE NUMBERS OF TARGETED POPULATION IN ZAMBIA AND SOUTH AFRICA

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Background: 90-90-90 treatment targets have evolved to drive massive upscaling of HIV testing & ART coverage by 2020. The primary requirement to achieve those targets is to bring larger volume of population under HTC services, knowing their status with shorter span of time, refer and link to ART. HPP has through its members a strong global presence in the field of HIV, and has demonstrated enhanced and time-bound testing coverage through home-based HTC in Zambia and South Africa.

Description: HPP has implemented TCE (Total Control of Epidemic) for the last 15 years and demonstrated the effectiveness of house-to-house, one-on-one intensified screening, risk assessment, mobilizing for and scaling up HTC. TCE in Zambia and South Africa have carried out home-based HTC services to bring larger amount of the local population under testing coverage. In Zambia 96,000 people were tested through home-based HTC services within a catchment population of 350,000 in Lusaka (28% of total population) between Apr - Sept’15 (average monthly coverage 16,000 or 5% of catchment population) with detection of around 10% sero-positivity. Of the 9,710 people who tested HIV positive in the catchment areas in Lusaka 6,214 completed linkage within 6 months or 66%. HPP tested 72,373 people with home based HTC in three sub-districts of South Africa between Mar’15 - Sept’15 with sero-positivity (6% East London, 7% Nelson Mandela Bay and 10% in Govan Mbeki).

Lessons learned: Home-based HTC is operationally feasible within the time-bound approach of the TCE strategy where the uptake of testing services with immediate referral to care and treatment of people tested HIV positive can be rapidly augmented within the families in absence of stigma and prejudices.

Conclusions/Next steps: HPP advocates for home-based HTC followed by high level of linkage to care and treatment to make it an integral strategy to achieve 90-90-90 treatment targets focusing chiefly on key population in HIV high burden countries.

THPEE497
RAISING DOMESTIC RESOURCES THROUGH THE PRIVATE SECTOR FOR HIV CARE AND TREATMENT WITH HEALTH INSURANCE IN KENYA

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Background: In order to achieve the 90-90-90 goals, rapid scale-up of HIV care and treatment is imperative in sub-Saharan Africa, a challenge in a global climate of stagnant donor resources for HIV. Kenya’s private health sector (PHS) plays a significant role in the delivery of the nation’s health services. Fifty-one percent of all health facilities are in the PHS, 40 percent of total health financing is from private sources, and the PHS provides ART for 24 percent of HIV positive clients accessing treatment. However, only 17 percent of Kenyans have health insurance, and private funding for HIV declined from 28 percent in 2007 to 7 percent in 2013.

Description: Mobilizing private financing for health via insurance mechanisms can increase sustainable access to HIV care and treatment via PHS sources, simultaneously increasing domestic financing for HIV. Under the USAID-funded SHOPS project, Abt Associates implemented a four year multipronged approach to increase sustainable uptake of HIV services via insurance coverage. First, SHOPS focused on strengthening insurers to sustainably deliver improved insurance products incorporating HIV services. Second, health facilities and private providers were engaged to strengthen their ability to accept insurance products and strengthen insurers to sustainably deliver improved insurance products incorporating HIV services. Third, SHOPS utilized data from multiple sources, both financial and epidemiological, to understand the profile of PLHIV who could afford insurance and conducted a survey to better define the knowledge of insurance among low-income clients. Finally, SHOPS increased the distribution of insurance products among PLHIV by promoting the sale of two insurance products and supporting an insurance knowledge campaign.

Lessons learned: SHOPS succeeded in increasing insurance coverage for over 20,000 lives, demonstrated an increase in understanding of insurance products among target beneficiaries by over 7 percent, and resulted in reduced costs in claims processing for PHS providers by approximately 17 percent.

[Table 1: HIV-positive yield, CD4 and referral update: Oct2014-Dec2015]

<table>
<thead>
<tr>
<th>Channel</th>
<th>Total positive</th>
<th>CD4&lt;500</th>
<th>Referral acceptance</th>
<th>Effective referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static site</td>
<td>521 (8.9%)</td>
<td>260 (49.9%)</td>
<td>510 (97.9%)</td>
<td>305 (59.8%)</td>
</tr>
<tr>
<td>Mobile HTC</td>
<td>2150 (8.9%)</td>
<td>1294 (60.2%)</td>
<td>2092 (97.3%)</td>
<td>1318 (63%)</td>
</tr>
<tr>
<td>Home-based HTC</td>
<td>733 (5.9%)</td>
<td>386 (52.7%)</td>
<td>686 (96.6%)</td>
<td>437 (63.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>3404 (8%)</td>
<td>1940 (57%)</td>
<td>3288 (96.6%)</td>
<td>2060 (62.7%)</td>
</tr>
</tbody>
</table>

Lessons learned: This evaluation seeks to look at the contribution and effectiveness of MHC in reaching programming goals.

Description: In 2013, three EGPAF-supported MHCs began operating in three southern districts where people living with HIV and AIDS were estimated to number 93,050. Each MHC, comprised of one clinician, one nurse, two counselors, and one driver visits eight peripheral health centers (PHCs) every two weeks. MHCs provide comprehensive HIV services, most notably prevention of mother-to-child transmission and care and treatment, including access to drugs and point-of-care CD4-count machines, which were not previously available at PHCs. These teams also provide technical assistance and mentoring to PHC staff. The fractions of MHC-provided services in the three covered districts were compared for the years 2013 and 2014.

Lessons learned: Each period showed wider geographic coverage and significant contribution of MHCs in reaching new populations. MHCs also reach areas where treatment access was previously limited; and the bimonthly visits have created a strong supply chain for drugs. The multidisciplinary MHC training at PHCs has resulted in improved quality of services as well as the capability to function independently in the future. For example, in 2014 the uptake of cotrimoxazole prophylaxis (90% vs 80%, respectively) and CD4 cell counts within 1 month of new client enrollment (72% vs 62%, respectively) was higher among MHC clients than fixed site clients. Also, loss to follow-up was lower among MHC clients.
Conclusions/Next steps: Engagement with the PHS to address issues across stakeholders is critical to increase domestic funding for HIV and ensure PHIV can access care and treatment. SHOPS’s experience identifies opportunities for continued engagement, the demand for insurance products that meet the needs of PLHIV, and the strengthening of insurance companies as partners to achieve 90-90-90.

THPEE498
UNIVERSAL HIV RAPID SCREENING OF PREGNANT PATIENTS ADMITTED FOR DELIVERY: A COST-EFFECTIVENESS ANALYSIS
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Background: Maternal to child transmission (MTCT) of HIV is largely preventable through screening and antiretroviral treatment, including maternal and neonatal prophylaxis, and Cesarean delivery (CD) for high or unknown viral load. Given the high prevalence (1.9%) and incidence (0.087%) of HIV among reproductive-age women in Washington D.C., our medical center recently implemented universal HIV rapid-screening of patients admitted for delivery in an effort to diagnose patients who were not previously screened or who seroconverted during pregnancy, to decrease MTCT.

Methods: We hypothesized that universal HIV screening would be cost effective in a high HIV prevalence and incidence area, such as D.C. We conducted a cost-effectiveness analysis to compare cost and quality-adjusted of life-years (QALYs) of our universal screening strategy with the current alternative standards of care (1. Rapid screening for patients without screening in the third trimester; 2. Rapid screen for patients with previous screening). Costs included materials and services of HIV rapid testing, associated treatments and delivery modes, and lifetime medical costs of treating perinatally-acquired HIV. We applied a 3% discount rate for the measure of QALYs. We obtained reference parameters, including cost information, incidence and prevalence data, from the D.C. Department of Health, published expert opinions, and medical literature. We developed a decision model taking into consideration HIV prevalence and cumulative incidence, HIV screening during prenatal care, sensitivity and specificity of HIV testing, CD rate, and risk of vertical transmission in different scenarios. Sensitivity analyses estimated the impact of variances in QALYs, estimated lifetime medical costs, HIV prevalence and cumulative incidence.

Results: The incremental cost-effectiveness ratio for universal screening was $15,801/QALY, compared with standard 1. Standard 2 was inferior to standard 1 in both effectiveness and cost, and was therefore excluded from further analysis. The results remained robust to sensitivity analysis. In areas with annual cumulative incidence rate of < 0.04% (i.e. < half the rate in Washington, D.C.), the incremental cost-effectiveness ratio for the expanded program would exceed $53,802/QALY, and exceed commonly applied cost-effectiveness thresholds.

Conclusions: Universal rapid HIV screening to diagnose MTCT in patients admitted for delivery appears cost effective in Washington D.C. and populations with high HIV incidence.

THPEE500
MORTALITY AMONG CHILDREN AND ADOLESCENTS ON ART IN CENTRAL KENYA
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Background: Mortality among children and adolescents has resulted in decline in HIV related mortality in Sub-Saharan Africa. However, late presentation, late initiation of antiretroviral therapy (ART), malnutrition and co-morbidities affect survival even among those already on ART. We describe clinical characteristics and time interval to death of children and adolescents who died while on ART.

Methods: A cross-sectional analysis of mortality data of children and adolescents aged 0-19 years from 39 facilities in Central Kenya, who initiated ART between 2012 and 2015. Data was collected from patient medical records and validated with electronic medical records of patients who died at the health facilities. Descriptive statistics was used to analyze abstracted data.

Results: Data from 55 children and adolescents who died while on ART was analyzed. Of these, 22% were aged 0-23 months, 24% were 24-59 months, 22% were between 5-9 years, 18% between 10-14 years and 15% between 15-19 years. Of these 49% were female. Most of the patients were in WHO stage I and II at diagnosis and death (54% v 53% respectively). Median baseline CD4 count at initiation was 300 cells/mm³ compared to 361.5 cells/mm³ at death. Majority of the patients (91%) had opportunistic infections before death with the most common being tuberculosis (TB) at 38%. HIV wasting, pneumonia, cryptococcosis, and candidiasis occurred in 24%, 13%, 5%, and 4% of the patients respectively. Documented z-scores amongst 23% of the under 5s indicated moderate to severe wasting in 92% of the patients. Mean time-to-death was 29.7 months but varied by age group with 9.3 months among 0-23 months, 19.5 months between 24-59 months, 41.8 months for 5-9 year group, 30.1 months for 10-14 year group and 23.6 months for 15-19 year group.

Conclusions: Tuberculosis infection and wasting were most common predictors of mortality among children and adolescents who died while on ART. Time to death was least among infants, children under 5 years and late adolescents aged 15-19 years. We recommend targeted follow-up tailored to age categories and intensification of screening and management of tuberculosis and wasting of children and adolescents.

THPEE499
MORTALITY AMONG CHILDREN AND ADOLESCENTS BEFORE INITIATION OF ART IN CENTRAL KENYA
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Background: The HIV epidemic has had a negative impact on child and adolescent survival and mortality. Prior to recent changes in guidelines for initiation of ART, children and adolescents ART initiation was based on several immunological and clinical criteria. We reviewed data of patients who died prior to initiation of ART in Central Kenya.

Methods: A cross-sectional analysis of mortality data of pre-ART children and adolescents aged 0-19 years from 39 facilities in Central Kenya, who initiated ART between 2012 and 2015. Data was collected from patient medical records and validated with electronic medical records. Descriptive statistics were used to analyze the data.

Results: Data from 105 pre-ART patient aged 0-19 years was analyzed. Of these, 15% were between 0-23 months, 20% between 24-59 months, 20% between 5-9 years, 28% between 10-14 years and 17% between 15-19 years. Half of these were male (50%). Most of the patients (80%) were at WHO stage I at enrolment and 60% at death. Median CD4 count was 555 cells/mm³ at enrolment and 593.5 at death. Majority (82%) developed opportunistic infections prior to death with tuberculosis being most common at 23%, wasting (20%) and pneumonia (12%), candidiasis (5%) and cryptococcosis (2%). Of the under 5 years, z-scores were available for only 20% of the patients, with 75% of these reported as moderate or severe wasting. The mean time-to-death from initiation of care was 24.7 months, with 7.7 months among infants less than 23 months, 13.1 months among children aged 24-59 months, 18.2 months among children aged 5-9 years, 39.1 months for 10-14 years olds and 37.2 months for those between 15-19 years.

Conclusions: Early mortality is commonest among those aged below five years and TB and wasting the commonest co-morbidities. These findings support intensive case finding for TB and current WHO recommendations to initiate ART in all children aged below 5 years regardless of CD4 count.

THPEE501
ANTIRETROVIRAL DRUG TOXICITY IN HIV-INFECTED PATIENTS STARTING THERAPY: A RETROSPECTIVE ANALYSIS OF TIME TO TOXICITY AND REGIMEN TYPE
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Background: AOR is necessary to sustain morbidity and mortality benefits. Toxicity may develop. We determined survival time from ART initiation to toxicity development.

Methods: A retrospective analysis of patients on follow-up for five years since ART initiation at 25 Ministry of Health facilities was done. The primary predictor variable was initial ART regimen while age, sex, and CD4 count at ART initiation were confounders. Data were abstracted from an electronic database. Kaplan-Meier used to estimate survival time and Cox regression analysis for multivariate analysis. Censoring variables for the study were death within follow up time, LTU, TO, Stop of ART for reasons other than toxicity and follow-up for 5 years without toxicity.

Results: Of the 26,659 patients, 11.3% were children below 15 years, 34.4% were male and mean age was 34.2 years. Median follow up time was 11.7(QR 2.4 - 29.2)
months and 9.5% developed toxicity. The mean CD4 at ART initiation was 186.6 cells/μL. The starting ART regimens were stavudine-based given to 36.4%, tenofovir-based to 31.4%, zidovudine-based to 20.3%, abacavir-based to 5.7% and non-standard regimens to 6.2% of the patients. The overall unadjusted mean survival time from ART initiation to toxicity development was 51.0 months (95% CI: 50.8, 51.4). Time to development of toxicity among patients on stavudine was 48.9 (95% CI: 48.5, 49.4); non-standard regimens 51.3 (95% CI: 49.7, 52.9); tenofovir, 54.4 (95% CI: 53.4, 55.3); abacavir, 55.3 (95% CI: 54.0, 56.5) and zidovudine, 55.4 months (95% CI 54.8, 56.0). Adjusting for age, sex and CD4 at ART initiation, patients on non-standard regimens and stavudine were more likely to have a shorter time to toxicity development compared to patients on tenofovir with a hazard ratio (HR) of 1.6 (95% CI 1.3, 2.1) and 2.1 (95% CI 1.8, 2.5) respectively. The relative hazards for development of toxicity for patients on abacavir compared to patients on tenofovir was marginally significant, HR 1.4 (95% CI 1.0, 2.0). There was no statistical difference in time to development of toxicity for patients on zidovudine compared to patients on tenofovir.

Conclusions: Toxicity following prolonged ART developed earlier in patients on non-standard and stavudine based regimens. [1] Except for age which is arm-level, all results are at the cluster-level; [2] mean (SD); [3] mean % (SD); [4] primary study outcomes; [5] Minimum Detectable Difference Ratio

Over the initial 4 months of the study, CHWs counseled a total of 892 participants (mean 89.2 clients per CHW, range 48-185) guided by the mHealth application. **Conclusions:** It is feasible to implement a cluster-randomized trial of a novel mHealth CHW intervention in a high-prevalence fishing community. Baseline characteristics are comparable between study arms. The study should have adequate power to detect moderate differences in important HIV-related outcomes to be assessed in 2017-2018.

### TPEE502

**A CLUSTER-RANDOMIZED TRIAL TO PROMOTE COMBINATION HIV PREVENTION USING MHEALTH-SUPPORTED CHWs IN A HIGH-PREVALENCE FISHING COMMUNITY: DESIGN AND BASELINE CHARACTERISTICS OF THE MLAKE TRIAL IN RAKAI, UGANDA**

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**Background:** Novel, intensive, yet economical approaches, are needed to increase combination HIV prevention uptake in high-prevalence, localized epidemics. We designed and initiated a household-based, mHealth (mobile phones for health) supported community health worker (CHW) intervention and are evaluating its impact in a cluster-randomized trial (mMAKE: mHealth Lakefokke Actively Keeping Engaged) in a high HIV prevalence Lake Victoria fishing community in Rakai, Uganda.

**Methods:** The study setting has an adolescent/adult HIV seroprevalence of 36%. The community was divided into 40 clusters. 10 CHWs were trained to use motivational interviewing informed methods to increase uptake and adherence to HIV prevention and treatment services. A mHealth smartphone application was designed for CHW use to expedite and structure their counseling approach. The intervention was nested within the Rakai Community Cohort Study (RCCS) which conducts detailed interviews with all consenting residents and collects samples for HIV and viral load testing at ~18 month intervals. Using RCCS data, baseline study arm characteristics were compared and study power calculated.

**Results:** In September 2015, 40 clusters containing 2088 RCCS participants were randomized 1:1 to intervention and control arms (intervention arm n=1092, control arm n=1092). Baseline characteristics were balanced between arms, including primary study outcomes (see Table).

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (IQR)</td>
<td>30.8 (7.7)</td>
<td>30.0 (7.9)</td>
<td></td>
</tr>
<tr>
<td>Cluster size [2]</td>
<td>49.8 (12.4)</td>
<td>54.6 (10.2)</td>
<td>-</td>
</tr>
<tr>
<td>HIV Prevalence [3]</td>
<td>37.5 (10.1)</td>
<td>35.4 (9.9)</td>
<td>-</td>
</tr>
<tr>
<td>Male [3]</td>
<td>48.9 (10.2)</td>
<td>53.5 (9.3)</td>
<td>-</td>
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<tr>
<td>HCT Coverage [3]</td>
<td>99.1 (1.5)</td>
<td>99.0 (1.3)</td>
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<tr>
<td>HIV Care Coverage [3,4]</td>
<td>75.2 (12.2)</td>
<td>74.3 (10.3)</td>
<td>1.15</td>
</tr>
<tr>
<td>ART Coverage [3,4]</td>
<td>66.0 (15.5)</td>
<td>67.0 (10.7)</td>
<td>1.20</td>
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<tr>
<td>Male Circumcision Coverage [3,4]</td>
<td>56.9 (11.7)</td>
<td>62.0 (13.4)</td>
<td>1.23</td>
</tr>
<tr>
<td>Population Prevalence of Detectable Virionma [3,4]</td>
<td>10.9 (4.9)</td>
<td>11.3 (4.2)</td>
<td>0.553</td>
</tr>
</tbody>
</table>

[Study arm baseline characteristics]
THPTEE504

“TOUGH TALKS”: DEVELOPING A VIRTUAL REALITY APPLICATION TO SUPPORT HIV SATIS DISCLOSURE AMONG YOUNG MSM

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Background: After diagnosis, persons living with HIV, including young men who have sex with men (YMSM) continue to engage in sexual risk behaviors. HIV-status disclosure can decrease risk, however currently there are no scalable interventions for youth. Virtual reality (VR) technologies can be leveraged as innovative approaches to communication skill building and sexual risk reduction.

Description: Tough Talks is a VR application designed for HIV+ YMSM to practice disclosing their status to intimate partners in a safe, confidential environment. Created in collaboration between two research universities and a software company, Tough Talks is delivered via a laptop and tablet. YMSM first select a disclosure setting and realistic avatar to disclose their status to. Avatars and scenes were designed by and in collaboration between two research universities and a software company, Tough Talks presents a novel opportunity to practice disclosure strategies prior to engaging in these difficult and stressful situations. As the application is refined, ultimately the human operator will not be needed, facilitating broad scale-up. Future iterations will feature expanded disclosure scenarios and avatar selections including partners, friends, and family members.

THPTEE505

COMMUNITY-BASED PHARMACISTS’ CONFIDENCE LEVEL IN COMMUNICATING WITH PHYSICIANS ABOUT HIV-POSITIVE PATIENTS ANTIRETROVIRAL THERAPY TREATMENT

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Background: Effective HIV patient care is largely dependent on communications between healthcare professionals across the HIV continuum of care. Pharmacists as medical experts are a valuable resource to physicians treating persons living with HIV (PLWH) with multiple chronic conditions. We are not aware of any studies examining pharmacists’ confidence communicating with physicians treating PLWH. Our study examines how community-based pharmacists’ confidence communicating with physicians impacts their ability to provide adherence promotion activities (APA) to PLWH.

Methods: We surveyed community-based pharmacists providing HIV patient care. We asked pharmacists to rate 27 APA activities (assessment, monitoring) and 4 questions about their confidence-level communicating with physicians (new appropriate questions, discussing therapy challenges) on 3-point Likert Scale. We used factor analysis to generate an APA index (α=0.92) and phy-pharmacoindex (α = 0.90). Univariate generalized linear modelling (GLM) and multivariate GLM were used to identify significant pharmacist (e.g., age, education) and pharmacy (e.g., type, size) factors associated with APA.

Results: 40% of the 188 pharmacists from 37 U.S. states surveyed worked in top HIV MSAs. Most were female (63%), Caucasian (67%) and HIV certified (73%). 33% worked in specialty-only pharmacies. A majority (85%) worked closely with physicians. 8% were not very confident about appropriate questions and 13% discussing ART regimen challenges. In univariate GLM, HIV+ clientele, prescription volume, public insurance, HIV certification, HIV organization membership, and phy-pharmacoindex had higher odds of APA; age and fulltime status had lower odds. In multivariate GLM, HIV certification, HIV organization membership and phy-pharmacoindex had higher odds [ORcertification: 1.432 (p < .05); ORmembership: 1.596 (p < .05); ORphy-pharmcomindex: 1.552 (<p > .05)], while fulltime status had lower odds [ORcertification: 0.700 (<p > .05)] of APA.

Conclusions: Many pharmacists are confident asking the right questions and discussing ART therapy with physicians. Pharmacists who are confident communicating with physicians are 50% more likely to provide APA, after controlling for HIV certification and membership. As the last providers patients see before treatment, pharmacists knowledgeable of appropriate questions and confident communicating therapy-related concerns with physicians can ensure PLWH are adherent to ART and avoid medication-related adverse effects. Our findings have significant implications for community-based pharmacists’ continuing efforts to promote adherence among PLWH.

THPTEE506

CREATING AN ONLINE HIV PREVENTION AND TREATMENT CASCADE USING THE ADAM’S LOVE ELECTRONIC HEALTH RECORD SYSTEM

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Background: Electronic health record (EHR) systems reduce the fragmentation of care, providing clients instant access to healthcare data and encouraging participation in their own health. Costs, fear of and actual data breaches, and securing client confidentiality remain key challenges. We developed Asia’s first EHR for men who have sex with men (MSM) and transgender (TG) people.

Description: myhealth.adamslove.org, a web-browser based EHR system launched by The Thai Red Cross AIDS Research Centre (TRCARC) in December 2015 as part of the Online Test and Treat Study, an implementation science research project to facilitate an online HIV prevention and treatment cascade. The EHR includes consent and registration processes, risk-assessments, appointment scheduling, visit reminders, live video guidance for HIV testing, access to post-test counseling summaries, HIV and STI test results, treatment referrals for HIV and STIs, treatment monitoring information including CD4 counts, viral loads and antiretroviral treatment. To ensure data security, the system is built on an IBM web server application and includes one-time password (OTP) system for two-factor authentication.

Lessons learned: Within one month of launch, 22 MSM and one TG were recruited online for HIV testing using the EHR. 65.4% were < 25 years, 46.2% were first time testers, 63.4% hid their sexual identity to family, friends or coworkers, 62.5% had used drugs in the past six months and 53.8% sometimes or never used condoms. All were HIV negative. All reported being very satisfied with their overall EHR experience, including the online consent and registration process, security and privacy aspects and appointment scheduling feature. Almost half (42.3%) revisited the EHR to check their post-test counseling summaries and lab results. However, there were initial technical difficulties with the OTP system due password delivery interruptions. These were addressed by troubleshooting directly with local mobile network operators and whitelisting internet protocol (IP) numbers. Other technical issues included inconsistent microphone or webcam function, and disruptions in live video chat due to slow Internet connections.

Conclusions/Next steps: EHR is an innovative intervention to engage young MSM and TG youth in online test and treat strategies. Longer-term data is being collected to demonstrate evidence across the use of EHR to improve health outcomes.
**THPEE507**

**THE IMPACT OF PATIENT-PROVIDER ATTACHMENT ON HIV-1 RNA PLASMA VIRAL LOAD SUPPRESSION AMONG PEOPLE LIVING WITH HIV IN BRITISH COLUMBIA**

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**Background:** Previous studies have shown that continuity with healthcare providers can positively impact patient- and health system-related outcomes, including better adherence to medications and reduced healthcare costs. However, the literature is limited to common chronic conditions such as diabetes and congestive heart failure; the hypothesis has not been tested among people living with HIV/AIDS (PLHIV). The objective of this study is to examine whether patient-physician attachment can play a role in improving HIV treatment outcomes among PLHIV, in the interest of informing effective interventions and health system changes to meet the UNAIDS 90-90-90 target.

**Methods:** Using comprehensive linked population-level data, we included PLHIV in British Columbia following their first dispensation of highly active antiretroviral therapy (HAART). Generalized linear mixed effects regression models were constructed to determine the relationship between patient-provider attachment, defined as the percentage of HIV-related services provided by the physician who provides the most services in the calendar year and categorized into quartiles, and HIV-1 RNA plasma viral load (VL) suppression.

**Results:** Between 1996 and 2013, 6,228 individuals were included in the study; 980 (15.7%) were female and the median age was 42 years (Q1-Q3: 36-49 years). At baseline, the median patient-provider attachment was 83% (Q1-Q3: 60-100%) and 2,536 (40.7%) of individuals achieved VL suppression. In a multivariable model adjusted for various demographic, behavioural and clinical confounders, there was no significant association between patients’ HIV treatment outcomes and 2,536 (40.7%) attachment to their provider for HIV-related services were more likely to achieve VL suppression. However, the findings indicate that beyond having an attachment of 60%, there were no significant benefits in patients’ HIV treatment outcomes. Our adjusted odds ratio (AOR) = 1.52, 95% confidence interval: 1.34 - 1.72; 83-99% attachment (AOR = 1.29, 95%CI: 1.11 - 1.49); and 100% attachment (AOR = 1.48, 95%CI: 1.32 - 1.67).

**Conclusions:** In this study, we found that patients who had a higher level of attachment to their provider for HIV-related services were more likely to achieve VL suppression. However, the findings indicate that beyond having an attachment of 60%, there were no significant benefits in patients’ HIV treatment outcomes. Our findings demonstrate that strong relationships between patients and their providers are needed to maximize VL suppression, which in turn will reduce HIV-related morbidity and mortality, and secondarily HIV transmission in this setting.

**Lessons learned:** From June through December 2015, of 175 eligible clients, 167 (95.4%) consented to participate and 98 (58.7%) cases were closed. Of closed cases, most received clinical and LCM services, were escorted to or met at facilities, enrolled in HIV care, and were initiated on ART if eligible. Similar outcomes were achieved among men and women, and younger and older clients (table). Of 65 partners/family members tested, 15.4% were HIV-positive.
THPEE510
THE SEXUAL AND REPRODUCTIVE HEALTH NEEDS OF ADOLESCENTS LIVING WITH HIV AND AIDS: TASO-RUKUNGIRI EXPERIENCE

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Background: Many program design focus on pediatric or adult care without adequately addressing the needs of a growing segment of adolescents. Recent study findings show that prenatally infected adolescents are sexually active, have poor preventive practices and strong desire to have children, yet fear of disclosing not only their sexual behavior and desires, but also pregnancies when they occur. TASO Rukungiri devised a strategy and established adolescent friendly services focusing on adolescent reproductive health. Three health workers and 3 counselors were trained on delivery of adolescent services, who then trained 30 adolescent peer educators across two age groups (10-14 and 15-24 years). The adolescent who had been trained supported the other adolescents in the need of adolescent reproductive health, adherence, positive living, and sharing experience as HIV positive and general sensitization about HIV issues.

Results: From September 2014 to March 2015, 60 male and 80 female were enrolled in the friendly adolescent clinic and trained. In this period there has been an increase in disclosure from 71% to 91%, access to PMTCT for those choose to become pregnant from 4 to 20%, family planning from 10-40% and cancer screening from 2-45%. They further report a free environment to discuss their reproductive issues with their counselors and health service providers.

Conclusions: The training of peers, medical and counsellor in addressing the needs of adolescents is the way to go in addressing the sexual needs of the adolescents. Friendly adolescent clinic is the way to go in order to address the reproductive health needs of the adolescents living with HIV and AIDS.

THPEE511
CONCEPTIONS OF AGENCY AND CONSTRAINT FOR HIV POSITIVE PATIENTS AND SERVICE PROVIDERS TO SUPPORT LONG-TERM ENGAGEMENT WITH ART CARE

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Background: In the wake of the optimism around antiretroviral therapy (ART) as prevention, addressing the barriers to long-term ART adherence is critical. This is particularly important given the tendency to individualize or use a blame discourse to ascertain why HIV positive patients “fail” to adequately adhere to ART, and not sufficiently exploring contextual reasons for poor adherence that may require varying solutions.

Methods: Using a syndemics framework, this study took place at 3 clinics and 1 hospital in Khayelitsha, South Africa to document the contextual factors that challenged ART adherence in this community. Interviews were conducted with 19 HIV positive patients who had defaulted on ART and were admitted to Khayelitsha Hospital for clinical complications, and 9 ART service providers including doctors, nurses and HIV counsellors. Interviews assessed reasons patients defaulted on ART with the consequence of requiring hospitalization and explored ways this could be prevented. Data from both groups were analysed collectively using thematic analysis.

Results: The interviews revealed a landscape of competing environmental risks with adherence to ART including patients’ regular migration with the Eastern Cape province interrupting their treatment, and poverty hindering patients’ access to food to take with ART and transport to attend clinics. Yet, all patients managed to overcome these contextual barriers at some point in their treatment phase indicating the fluidity of patients’ needs and decision-making. Distrustful relationships with service providers could inhibit patients’ understanding of ART, ability to seek support and/ or interrupt their care. Patients also described more unfavourable expressions of rationale and agency underlying non-adherence, such as carefully managing their CD4 count to not risk losing their disability grant, and testing their bodies’ physical limits without ART medication.

Conclusions: The study speaks to the need to appreciate social and structural barriers related to ART adherence, and how these are negotiated by specific sub-groups including according to gender and age, to support an appropriate response. It is imperative to assess patients’ subjective trajectory of their ART journey, decision-making and agency with adhering to ART, their relations with HCWs, and how these dynamics are intertwined with broader health systems and power constraints.

THPEE512
LINKAGE TO CARE FOR INDEX CLIENTS IN THE ASSISTED PARTNER SERVICES (APS), KENYA

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Background: Early diagnosis and linkage to care of newly infected HIV seropositive individuals is critical for HIV suppression and improved life expectancy. Healthcare worker assisted partner services (APS) have been used to increase HIV case finding among individuals unaware of their HIV serostatus. We analyzed linkage to care among index cases that received APS.

Methods: Between August 2013 and September 2015, the APS Study, a cluster randomized clinical trial, was conducted in 18 HIV Counseling and Testing (HCT) facilities in Central and Western Kenya to evaluate the effectiveness of healthcare worker APS in augmenting linkage to care for HIV seropositive individuals and their sexual partners. The sites were divided equally into intervention sites (sexual partners notified immediately after index enrolment), and control sites (notification conducted 6 weeks after index enrolment). Linkage to care was defined as self-reported HIV Comprehensive Care Center (CCC) registration. We evaluated linkage to care for index clients at the 6 week follow-up visit.

Results: Of the 1760 clients approached to the study, 1119 (63.6%) were enrolled (female: 62%, median age: 30, married monogamous: 55%), 964 (86%) returned for the 6 week follow-up visit, with 473 (49%) in the immediate arm. 876 (91%) clients had ever registered at a CCC, 718 (74%) had blood drawn for CD4 count and 359 (37%) reported taking ART since study enrolment. Index clients in the immediate arm were more likely to enroll in HIV care by the 6 week visit (440/473, 93% versus 436/491, 88.8%; OR 1.69, 95% CI: 1.02 - 2.81) compared to those in the delayed arm. Among those enrolled in HIV care during the first 6 weeks, the immediate and delayed arms had similar proportions of index clients receiving a CD4 blood draw (OR 1.24, 95% CI 0.63 - 2.46) and taking ART (OR 1.03, 95% CI 0.33 - 3.28).

Conclusions: In this Kenyan population, APS was associated with increased index client enrolment in HIV care, with no significant difference in CD4 blood draw or ART use. This linkage to care benefit of APS may be a result of active healthcare worker involvement in the follow-up of their sexual partners.

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THPEE513
HIGH ACCEPTABILITY FOR WORKPLACE BASED HIV TESTING IN A CLOSED COMMUNITY OF FACTORY WORKERS IN PUNE, INDIA

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Background: Migrant labourers have low access to health care and HIV-testing services (HTS). To make HIV test accessible, we tested a workplace intervention for a closed community of factory workers mostly living on premises in Pune, India.

Methods: A team of doctors, counsellors, nurses set up a temporary sample collection facility on premises for HIV and Haemogram tests. An awareness talk was followed by invitation to avail HTS. HIV reports were provided individually in a nearby facility, with post-test counselling at which time views and attitudes about HIV-testing were assessed.

Results: Of 100 awareness lecture attendees, 81(mean age 29yrs) volunteered and underwent HIV-testing. HIV-test result could be given to 71 (s10) participants returned to native place. While, only 18% reported having contemplated getting tested in past, 83% availed HTS. Peer motivation (90.4%), curiosity (63%), workplace testing opportunity (49%) were most cited reasons for HIV-testing. Only 16.7% tested in past, 81% availed HTS. Peer motivation (90.4%), curiosity (63%), workplace testing opportunity (49%) were most cited reasons for HIV-testing. Only 16.7% tested in past, 81% availed HTS. Peer motivation (90.4%), curiosity (63%), workplace testing opportunity (49%) were most cited reasons for HIV-testing. Only 16.7% tested in past, 81% availed HTS. Peer motivation (90.4%), curiosity (63%), workplace testing opportunity (49%) were most cited reasons for HIV-testing. Only 16.7% tested in past, 81% availed HTS.

Conclusions: High acceptability and low stigma, for workplace HIV-testing can be a promising approach to achieve the first of the WHO 90-90-90 goal among migrants in Pune, India. Although group education was useful in retention of knowledge and awareness, individualized counseling can make a useful tool to improve HTS acceptability among migrant workers. A large scale study is required to confirm the acceptability of workplace HIV-testing in migrant communities.
churches become an effective player in leading behaviour change and eliminating programmes tailored to church workplaces is needed to target these gaps so that hold attitudes of stigma towards people living with HIV. Intensifying HIV and AIDS discrimination.

- percentage of the respondents including men and women revealed tendencies of attitudes of stigma (stating “they deserve it”) toward PLHIV and people who identify would be comfortable working closely with PLHIV, 19 (20%) of these demonstrated condom use. Although more than 94 (60%) of all respondents reported that they -tionnaire respondents and 18 (60%) of focus group participants reported regular - in three countries (Malawi, Mozambique, and Zimbabwe) was conducted during training workshops where all participants volunteered to respond to a set of questionnaires on knowledge, attitudes and practices on HIV and AIDS and the stigma issues.

Purposive sampling was used to select a small group of church workers to partici-pate in focus group discussions. Using a semi-structured focus group guide that cov-ered the same areas as the questionnaire, 30 participants from the total sample (10 from each country, comprising men and women) participated in the discussion. The SPSS package was used to analyse data.

Lessons learned: Levels of risk behaviours were high among married middle-age/elderly employees where 43 (40%) of the survey respondents, all being males, reported having multiple concurrent sexual partners. Only 25 (20%) of survey ques-tionnaire respondents and 18 (60%) of focus group participants reported regular condom use. Although more than 94 (60%) of all respondents reported that they would be comfortable working closely with PLHIV, 19 (20%) of these demonstrated attitudes of stigma (stating “they deserve it”) toward PLHIV and people who identify as LGBTQI. More males than women admit to higher risk behaviour while a high percentage of the respondents including men and women revealed tendencies of discrimination.

Conclusions/Next steps: Church employees show high risk behaviours and still up-hold attitudes of stigma towards people living with HIV. Intensifying HIV and AIDS programmes tailored to church workplaces is needed to target these gaps so that churches become an effective player in leading behaviour change and eliminating HIV and AIDS-related stigma.

**THPEE516**

**REACHING KEY POPULATIONS IN URBAN SETTINGS THROUGH HOME-BASED HIV TESTING AND COUNSELING BY URBAN HEALTH EXTENSION PROFESSIONALS IN ETHIOPIA**

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Background: Home-based HIV testing and counseling (HBHTC) is a widely accept-ed strategy for countries seeking to expand HT. It is widely believed that HBHTC addresses logistical barriers, increases access to needed services, and potentially reduces stigma. The USAID-funded, John Snow, Inc.-implemented Strengthening Ethiopia’s Urban Health Program (SEUHP) provides HBHTC focused capacity building support such as materials development, training, and continuous quality improve-ment for urban health extension professionals (UHEPs).

Description: In Ethiopia, although HBHTC has been offered as a component of the Urban Health Extension Program (UHEP) package of services, some Regional Health Bureaus were reluctant to include HBHTC in the service package because of con-cerns regarding the quality of services provided by UHEPs. SEUHP demonstrated the advantage of these professionals in expanding access to HT at the household level to reach key population groups such as discordant couples, widows, pregnant women, and out-of-school youth.

Lessons learned: Between October 2013 and December 2015, UHE-psin 37 cities and towns counseled and tested 8,198 targeted members of these key populations. Of these, 75 (0.9%) tested HIV positive and were linked to health facilities and other social service providers. After demonstrating the efficacy of this approach, HBHTC has been included in the UHEP service packages in all Ethiopian regions. Better identification of the target population, comprehensive mapping of local health and social service providers, developing guidelines for integrating HBHTC with other community-based health initiatives (such as TB), and developing supervision guide-lines for UHE-ps are important next steps.

Conclusions/Next steps: In Ethiopia, the implementation of the UHEP created op-portunities to expand access to HT services. HBHTC is a less controlled and more complex intervention than facility-based HT and the quality of HBHTC is therefore a concern. Key strategies to address quality issues in HBHTC such as proficiency testing, external quality assessment, and supervision systems should be in place. Further study is needed to better understand the level of the acceptance of HBHTC by the target population, their satisfaction with services provided, and the cost-effectiveness of HBHTC compared to facility-based testing. In addition, Ethiopia must develop a HBHTC policy to guide its proper planning and implementation.
Results of community-based rapid HIV testing on KAP in Moldova

Background: Low uptake of HIV testing is one of key barriers in the HIV treatment cascade in Moldova. This operational research measured outcomes of community-based rapid testing on uptake of key affected population (KAP) with HIV testing and linkage to care.

Methods: Rapid saliva-based HIV testing and counseling was conducted by 14 community-based organizations (CBOs) in PWID, SW and MSM through outreach and community settings. People with preliminary positive test results were accompanied or referred to public facility for confirmatory HIV testing and linkage to care.

Results: A total of 2,630 people from KAP received community-based rapid HIV testing during year 2015. Of the 2,630 tested, 95 (3.7%) had a preliminary positive HIV test result. From them 47 persons (49%) reached the public facility for confirmatory testing and 34 people (72%) were newly diagnosed with HIV and 8 people (17%) had a CD4 or viral load test in the past six months, lists of active patients eligible for ART, lists of patients who missed appointments without reason, lists of patients who have not turned lost patients into care and start eligible patients on ART or clarify reasons of death. The DQA system was implemented at 7 sites in Russia and 14 sites in Ukraine.

Conclusions: Community-based testing can efficiently reduce gaps in HIV testing and linkage to care of KAP. Continuous monitoring allows identifying bottlenecks and quality improvement and design interventions to further increase linkages between community-based prevention programs and public health providers.

THPEE519 EFFECTIVENESS OF A MONETARY INCENTIVE ON GENERAL PRACTITIONERS’ BEHAVIOUR OF PROMOTING HIV TESTING FOR PREGNANT WOMEN IN THE PRIVATE SECTOR

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Background: Early HIV testing is a crucial step for pregnant women in preventing mother-to-child transmission of HIV. In the public sector nearly all pregnant women presenting at antenatal clinics are screened for HIV. However, according to a large medical-aid administrator in South Africa, only 21.96% of pregnant women on their medical aid claimed for an HIV test as part of their antenatal care in 2012. Previous studies indicate that monetary incentives over and above the negotiated rate may motivate health providers to promote screening to patients, and this may lead to increases in the uptake of testing.

Methods: A quasi-experimental, ‘before and after’ study design, was conducted among 2,934 general practitioners who managed pregnant women on medical aid. Data was extracted from the billing system of a private medical insurance company in South Africa. The effectiveness of the intervention was assessed by comparing uptake of HIV testing in the pre intervention period between April 2011 and September 2012, and post intervention period between March 2013 and August 2014. A subgroup analysis was done to determine variations in the outcome measures, by practitioner and patient characteristics.

Results: There was no statistically significant difference in HIV testing by general practitioners in this network pre and post the intervention. Compared to general practitioners aged 25-44 years, those practitioners older than 65 years old were 13% less likely to test (OR 0.87, CI: 0.74-1.01) and those between 45 and 65 years were 9% less likely to do an HIV test (OR 0.91, CI: 0.85-0.98). This study found that as patients’ age increased, they were more likely to be tested: beneficiaries aged 35-44 years were 15% more likely to be tested compared to beneficiaries aged 15-24 years (OR 1.15, CI: 1:1.12).

Conclusions: General practitioners’ behaviour to comply with clinical guidelines and best practice, has no association with the presence of financial incentives.

THPEE520 INTERVENTIONS TO INCREASE UPTAKE, RETENTION AND ADHERENCE TO HIV SERVICES: A CASE OF THE AUTOMOTIVE AND AGRICULTURE SECTOR IN THE EASTERN CAPE PROVINCE

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Background: While there has been massive investments aimed at combating HIV&AIDS in South Africa, a little has been done to develop interventions that can increase uptake, retention and adherence to HIV services especially at a time when South Africa recently adopted the new UNAIDS strategy code named 90-90-90 aimed at achieving an AIDS free generation by year 2020. This study presents the success story of the Automotive Industry Development Centre Eastern Cape (AIDC EC) wellness programme in achieving high HCT uptake in the automotive and agriculture sector in the Eastern Cape province.

Methods: The AIDC EC Wellness management programme, with a specific focus on HIV & AIDS, is targeted at employees working in the automotive industry in Nelson Mandela Bay as well as citrus farm workers within the Sarah Baartman district (previously known as Cacadu district) in Eastern Cape Province. The programme offers baseline assessments such as situational assessments, cost benefit analysis, KAPB surveys and health risk assessments such as HIV Counselling and testing, Blood pressure assessment, Glucose, TB Risk assessment and Body Mass Index.

Results: While there has been massive investments aimed at combating HIV&AIDS in South Africa, a little has been done to develop interventions that can increase uptake, retention and adherence to HIV services especially at a time when South Africa recently adopted the new UNAIDS strategy code named 90-90-90 aimed at achieving an AIDS free generation by year 2020. This study presents the success story of the Automotive Industry Development Centre Eastern Cape (AIDC EC) wellness programme in achieving high HCT uptake in the automotive and agriculture sector in the Eastern Cape province.

Lessons learned: Based on the Information Motivation Behavioral skills (IMB) model, the programme has, since 2009, through its tailored, culturally competent behaviorial interventions achieved an average HCT uptake of 85% in the automotive and 70% in the agriculture sector. Using behavioural interventions such as facilitated screenings, educational theatre, posters and peer educator training sessions, the AIDC EC wellness programme has reached approximately 5000 employees in the automotive and agriculture sector since its inception. Results from the wellness drives shows that HIV prevalence is high in the Agriculture sector (2%) as compared to the automotive sector (6%). Employees who showed positive results were referred to nutritionists and social workers for further counseling, care support. To ensure sustainability of the programme, a follow-up study is often conducted to ascertain what happens after employees test positive.
Conclusions/Next steps: The success of the AIDC EC wellness programme provides evidence that behavioural models are an effective way of increasing HCT uptake, retention and adherence to HIV Services.

INTERVENTIONS TO ENHANCE UPTAKE OF HIV PREVENTION INTERVENTIONS E.G. VOLUNTARY MEDICAL MALE CIRCUMCISION, CONDOM USE, PRE-EXPOSURE PROPHYLAXIS (PREP) USE, POST-EXPOSURE PROPHYLAXIS (PEP) USE

THPEEE21
EXPANDING ACCESS TO HIV POST EXPOSURE PROPHYLAXIS (PEP) IN BRAZIL

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Background: By 2014, Brazilian recommendations on PEP were available in four different protocols: occupational exposure, occasional sexual exposure, sexual violence and reproductive planning. Different ARV regimens were recommended in each of these protocols, in an individual approach, making them difficult to be followed by general practitioners in non-referral centers. This approach raised two major issues: (1) unawareness of PEP as preventive method for HIV; and (2) lack of ARV prescription resulting from prejudice or moral judgment in cases of sexual exposure. We present a strategy to expand access to PEP in Brazil, analyzing trends in PEP prescription following the release of a new protocol.

Description: The new PEP protocol was released in July 2015 bringing new approaches: (1) consolidation of PEP protocols into one single protocol; (2) PEP procedures based on algorithms; (3) one single preferred ARV regimen; (4) the use of PEP in emergency rooms; (5) reduced time of follow-up; and (6) focus on the feasibility of prescribing PEP in any healthcare facility, by any physician, regardless of previous experience.

Lessons learned: Simplifying ARV recommendations for PEP has increased the use of this technology. Between 2014 and 2015, there was a 50,9% increase in PEP prescription. Moreover, there were more than a two-fold increase in use of ARV in cases of occasional sexual exposure in 2015 (18,559) when compared to 2014 (7,912).

The preferred ARV regimen (tenofovir/lamivudine/aztazavir/ritonavir), which had never been prescribed for PEP before the publication of the new guidelines, was the most prescribed regimen in 2015: 37,3% (6,919) of all regimens used. Conclusions/Next steps: Brazil’s new approach on PEP showed outstanding results, mainly on expanding access to this technology. A consolidated protocol, an algorithm-based PEP procedure, one single preferred ARV regimen and focus on prescription by non-specialized professionals have led to the greatest increase in PEP use in the history of Brazil’s public health system.

THPEEE22
IMPACT OF MASS MEDIA INITIATIVES ON HIV PREVENTION AMONG YOUNG PEOPLE: A CASE FOR STRAIGHT TALK FOUNDATION (STF), UGANDA

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Background: The impact of mass media initiatives on HIV prevention among young people is debatable. In 2004, the UNAIDS Inter-Agency Task Team on Young People decided that timely review of progress and evidence for the effectiveness of interventions, focusing explicitly on interventions to prevent the spread of HIV among young people in developing countries was paramount. STF aimed at finding out if adolescents who are exposed to mass media interventions practice more safe behaviours than those who are not exposed.

Methods: A cross-sectional descriptive and analytical study design utilizing both qualitative and quantitative methods was employed. The study took place in 7 rural districts where a structured questionnaire was used to collect data. 1,189 young people aged 10-25 participated in the study. Data was entered using EPIDATA and later exported to SPSS version 19 for analysis. Bivariate and multivariate analysis was conducted. Consent and assent was obtained; ethical clearance sought from Uganda National Council for Science and Technology (UNCST).

Results: 70.4% of young people were exposed to at least 1 mass media intervention while 39.6% were unexposed. Results show that there is a relationship between the intervention exposure and age; sex; and school status (all p-values <0.05). Young people who were exposed to any interventions were 1.5 times more likely to mention that a person looking healthy can still be infected with HIV/AIDS (p-value=0.016 (aOR=1.5). Young people exposed to some intervention were more likely to have more sexual partners, though were also twice as likely to have used a condom at their last sexual intercourse (p-value=0.001; aOR=2.4). At p-value=0.000 and aOR=2.9, exposed young people were three times more likely to have ever visited a health facility for SRH/HIV services. Exposed young people were two times more likely to have tested for HIV (aOR=2.2, p<0.000). Young people with multiple exposure were almost five times as likely to report taking a decision to get circumcised so as to prevent HIV (p-value=0.000 (aOR=4.7).

Conclusions: Consistent and intensive exposure to mass media interventions increases uptake of SRH/HIV prevention services such as HIV counselling and testing, condom use, as well as safe medical male circumcision.
INTERVENTIONS TO IMPROVE ADHERENCE TO TREATMENT AND PREVENTION BEHAVIOURS AND TECHNOLOGIES

THP5E524
THE EFFECT OF ENGAGEMENT IN ECONOMIC STRENGTHENING INTERVENTIONS ON ART ADHERENCE IN ETHIOPIA

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Background: Economic strengthening (ES) interventions are increasingly promoted to support the economic well-being and food security of people living with HIV (PLHIV) in resource poor settings. However, little is known about the contribution of engagement in ES activities on their antiretroviral therapy (ART) adherence. This study aims to assess the impact of ES interventions in Ethiopia designed to address poverty and food insecurity on treatment adherence.

Methods: Comparative cross-sectional design was employed to compare food insecure PLHIV benefitting from the ES project of WFP Ethiopia to food insecure PLHIV not participating in ES. The study covered a total of 1240 food insecure PLHIV in both groups identified using a set of criteria. In this study, two approaches, namely, Visual Analogue Scale (VAS) and AIDS Clinical Trials Group (ACTG) questionnaire were employed to measure ART adherence.

Results: Using the VAS approach to measure ART adherence, 9.9 percent of the ES group and 25.9 of the comparison group reported taking the medication below the standard requirements, which is a 95% adherence level. The proportion that reported poor ART adherence (below 85%) was 5.1 percent among the ES group and 16 percent among the comparison group (P=0.000). Applying the ACTG approach, which measures ART adherence by the number of pills taken out of the total prescribed in the last four days before the survey, the adherence level of 98.6 percent of the ES group was reported to be ‘good’. The corresponding figure for the comparison group was 86.7 percent. Controlling for socio-economic and demographic variables using logistic regression models, engagement in ES activities increases the likelihood of having good ART adherence by a factor of 2.4 and 5.6 respectively (as measured by VAS and ACTG approaches) compared to those PLHIV that are not engaged in ES.

Conclusions: The findings of the study consistently suggest that one’s engagement in ES contributes for improvement of ART adherence among food insecure PLHIV. If further studies validate this result, ES should be taken as key strategy to improve HIV treatment adherence in resource poor settings where adherence is an issue of concern.

THP5E525
IMPROVING ACCESS TO CARE TO ACHIEVE THE UNAIDS 90-90-90 TREATMENT TARGETS IN RURAL MALAWI: LESSONS LEARNED FROM THE GLOBAL AIDS INTERFAITH ALLIANCE (GAIA) VILLAGE BASED FOLLOW-UP PROGRAM FOR HIV+ INDIVIDUALS

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Background: To reach the ambitious UNAIDS 90-90-90 treatment targets, programs must focus on the hardest-to-reach populations lacking access to comprehensive treatment and care services, such as those living in remote, rural, high HIV prevalence areas in Malawi. Currently 95% of HIV service delivery in Malawi is facility based, far from many villagers.

To reach the 90-90-90 targets it is estimated that 30% of all services should be delivered in the community. GAIA’s Elizabeth Taylor Mobile Clinics, operating since 2008, have helped fill the testing gap, but follow-up for initiation on treatment and adherence support remains challenging.

Description: In January 2014, GAIA initiated a Follow-up Nurse Coordinator (F/C) Program for clinic clients, primarily those testing HIV-positive. Nurses travel by motorbike to client homes to connect them to care. They encourage clients to seek confirmatory testing, evaluation for treatment initiation and treatment adherence. The F/Cs provide patient education and encourage adherence to treatment regimens as patients move along the treatment cascade until stable on antiretroviral therapy (ART).

Lessons learned: Outcomes for 580 clients to date: 64% remain in care, 26% were discharged from the program stable with health improving, 3% died, 2% opted out of care and 4% were lost to follow-up. Of the 79% of clients eligible for treatment according to the WHO treatment guidelines for resource limited settings, 94% were on ART and 98% were self-reporting adherence to treatment. Seventy-four percent of all HIV clients were on ART regardless of eligibility compared with a national estimate of 49% on ART.

(GAIA Follow-up Nurse Coordinator Client Outcomes)

Conclusions/Next steps: F/Cs dedication to serve remote populations fosters trust with communities and improves ART initiation and treatment retention. The coordinators identified important HIV care and treatment program gaps to be included in future iterations, including nutritional support, support groups, and ART adherence clubs for HIV+ individuals in impoverished villages.
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THPEE527
FACILITY-BASED STRATEGIES FOR ENHANCING RETENTION AND ADHERENCE AMONG PEOPLE WITH HIV AND AIDS IN MALAWI: THE EXPERT CLIENT MODEL OF CARE

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Background: In settings with high HIV burden and shortages of health staff, task-shifting strategies have used lay health workers to enhance retention in care and adherence to ART. While it is well accepted that patients derive benefits from peer support, there is limited recognition of the increasing role of lay health workers in Malawi.

Description: Dignitas International and the Malawi Ministry of Health have scaled-up an Expert Client (EC) program in 106 health facilities in the South Eastern region of Malawi after a pilot phase at Zomba Central Hospital. ECs are HIV positive individuals who are open about their status and are trained in providing psychosocial support, health promotion and defaulter tracing. They work in ART/PMCT and Under 5-clinics and receive remuneration as lay health workers. Between August 2014 and December 2015, 328 ECs were enrolled. Routinely collected program data from 106 health facilities from August 2014 to December 2015 was used to explore the role of ECs in HIV service delivery.

Lessons learned: ECs reached 675,405 patients with health promotion messages, weighed 231,878 patients, and screened 56,069 children’s nutritional status. Out of 1,070 defaulters identified by ECs, 802 (75%) returned into care, 98 (9%) were not found, 107 (10%) were on ART in other facilities and 63 (6%) were deceased. ECs gave psychosocial support to 362,458 individuals of whom 47,997 were Option B+ women and followed-up 6,813 PMCT women and 7,000 HIV-exposed babies in their homes. Challenges in the program included dissatisfaction with low remuneration, continuing need of mentoring and training of an increasingly large workforce, false identity of ART patients and unofficial transfers making follow ups difficult. ECs offered a remarkable range of support to patients and relieved the burden of formal health workers by performing health promotion, defaulter tracing and simple medical tasks.

Conclusions/Next steps: A further evaluation is needed of the contribution of ECs to reaching the 90-90-90 UNAIDS targets and how this compare to other types of lay-health workers, also in terms of cost-effectiveness. A more formal inclusion of ECs in the health care structure needs to be considered and prioritized in Malawi.

THPEE528
IMPROVING ADHERENCE TO HIV CARE AND TREATMENT WITH CONDITIONAL CASH TRANSFERS IN A CARIBBEAN MIDDLE-INCOME COUNTRY

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Background: Conditional cash transfers (CCTs) have proven to be a powerful intervention with potential to improve adherence to care for PLHIV. Despite success in increasing free access to care, this intervention was considered for Jamaica as adherence remains a major challenge. Assessments of missed appointments highlighted financial constraints thus leading to implementation of new structural approaches to address economic barriers to care.

Description: The project sought to pilot a CCT programme to affect behaviour change by improved adherence to HIV/AIDS care. The targets were to enroll 100 PLHIV susceptible to inconsistent and low clinic attendance who were assessed to need financial assistance (to ensure that those most in need were enrolled), and that 70% of intended appointments would be kept. Other elements of enrollment were included transfer from a nearby large site to one of three smaller sites facilitating shorter wait periods and shorter access for monitoring. Conditions for disbursements over 12-months included on time doctor’s visits, diagnostic tests, prescription refills and counselling sessions.

Despite over 2,500 active PLHIV from referral sites, uptake was slow and recruitment and enrolment of 100 persons took 9 months, even though eligible clients who expressed dissatisfaction with the service at the large clinics were actively targetted. Furthermore, throughout the programme, counselling sessions had to be added as eligible for disbursements, and in spite of rewarding different elements of care, 10 participants (10%) became LTFU, 8 who never attended any of their appointments.

Lessons learned: Targets were achieved - 100 participants enrolled and over 70% completed all 4 doctor’s visit, 4 counselling sessions, 2 CD4 tests and 2 VL tests - affirming that CCTs can work. However, implementation challenges suggest that financial need was not necessarily the main factor hindering adherence. This was reinforced in the programme delivery which became more than just financial disbursements as workers also intensified participant follow-up, making it difficult to primarily credit the socioeconomic support for its success.

Conclusions/Next steps: Further monitoring is needed to establish if participants continue to adhere to treatment without CCTs, and if viral suppression among those on ART was achieved. Consideration must also be given to mechanisms to strength-en and/or prioritize individual follow-up.

THPEE529
IMPROVING ADHERENCE TO TREATMENT AND PATIENT SAFETY BY IMPLEMENTING AN HIV/ TB ACTIVE SURVEILLANCE SYSTEM IN SWAZILAND

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Background: Burdened with an HIV prevalence of 26%, a TB incidence rate of 1,350 per 100,000, and an HIV/TB co-infection rate of more than 80%, Swaziland has mounted a forceful response, focusing on high-impact interventions, including placing over 80% of people living with HIV on treatment. The high number of people on antiretrovirals (ARVs) and the toxicity associated with these medicines accentuate the need to monitor and manage their adverse drug reactions (ADRs) for improved patient safety and adherence. Timely and effective management of ADRs reduces the ill effects experienced by patients that may lead to non-adherence.

Description: The Ministry of Health, with support from the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, established an HIV/TB active surveillance system to improve ADR management and inform decision making. The two-year prospective observational cohort study was introduced at five pilot hospitals providing HIV/TB services. The process included:

- Developing protocols and tools, including an electronic pharmacovigilance (PV) database
- Training health care professionals
- Clinicians enrolling treatment-naïve HIV patients and TB patients starting a new regimen (and monitored their ADRs for an initial period of two years)
- Monthly data collection, analysis, causality assessment, and supportive supervi-sory visits
- Developing a quarterly newsletter to disseminate PV data and share latest knowl-edge

Lessons learned: There are presently 3,031 patients enrolled in the active surveil-lance system (from June 2013-December 2015) (52% females and 48% males) with 1,136 ADRs reported, of which gastrointestinal effects (19%) and peripheral neu-ropathy (17%) are the most common, with nephrotoxicity, hepatotoxicity, and ototoxici-ty being the most severe. The evidence from the active surveillance activity supported the subsequent expansion of the system to three more facilities in May 2015, and active surveillance of ADRs for patients on ARVs has been adopted as part of the standard of care.

Conclusions/Next steps: Swaziland has effectively established an integrated PV sys-tem to reduce the risks associated with ADRs. The findings have been used to inform the revision of treatment guidelines and develop job aids for health professionals and patients to facilitate early identification and management of ADRs to promote patient safety and adherence.

THPEE530
APPLICATION OF TOOLS FROM MARKETING RESEARCH, DESIGN THINKING, AND BEHAVIORAL PRIMING TO UNDERSTAND VARIATION IN PATIENT EXPERIENCES AND OPPORTUNITIES FOR IMPROVING ADHERENCE AMONG ADULTS LIVING WITH HIV IN TANZANIA

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Background: Traditional approaches to improving HIV treatment adherence rely on the perspective of clinicians and policymakers. To better understand the patient ex-perience and aspects of daily life that influence adherence, we applied an empath-
based approach by adapting tools from marketing research and design thinking. We aimed to identify and assess latent factors influencing treatment adherence among adults living with HIV infection and the intervention development directly to the patient experience. The ultimate goal was to develop and evaluate an intervention incorporating concepts from behavioral priming, which is when a stimulus indirectly influences behavior.

Description: At two HIV primary clinics in Shinyanga, Tanzania, we used four steps from design thinking: watch, listen, map, and test. This process included disciplined clinic and household observations, in-depth semi-structured and photo-based interviews, an approach to brainstorming to avoid group-think, focus groups for feedback on iterative intervention designs, and journey mapping. This process excited patients, engaged health staff, and raised fresh insights.

Lessons learned: We identified five ‘patient segments’, an idea derived from the concept of customer segments, which describe perception of health, risk factors for poor adherence, and potentially successful interventions. For example, the ‘Big Picture Thinker’ segment is motivated to stay healthy by their personal goals such as supporting their families. Ideal interventions for this segment should praise personal commitment and underscore treatment’s role in maintaining health. In contrast, the “No Tomorrows” segment is typically younger, asymptomatic, and primarily motivated by pressing social aspirations such as marriage. Ideal interventions for this segment are discreet, support immediate goals, and impart a long-term perspective. We created corresponding “journey maps” for each segment to represent stages in the treatment experience that influence adherence. These maps guide when and how to support each group.

Conclusions/Next steps: The use of patient-centered tools to guide innovation is new in the HIV context. These tools are rooted in empathy, place the patient at the center of ideation, and can help identify user-specific insights related to preferences, motivation, and barriers in order to change attitudes or behavior. We used these tools to develop and refine interventions using behavioral priming, whose effectiveness we are evaluating in an ongoing study.

**THPEE531**

**SAVINGS GROUPS: A CATALYST TO ENHANCE RETENTION ON CARE FOR WOMEN ON ART IN LOW-INCOME COMMUNITIES OF KITWE, ZAMBIA**

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**Background:** Economic vulnerability has been documented as one of the key drivers of HIV infection in Zambia particularly for women and girls. HIV prevalence in Kitwe stands at over 20%. Prolife Advancement and Education Partners (PLAEP), a grass root faith based organization with support from USAID through the Zambia Led Prevention Initiative and the Positive Action Children Fund (PACF), has facilitated formation and operation of savings groups. At the end of 2015, over 500 women were members of the savings groups and saving consistently. Each group has at least 20 members who are HIV+. Savings groups have not only contributed to quantitaive benefits such as increased incomes and improved nutritional status but also qualitative benefits such as improved assertiveness and discipline that has resulted in improved adherence to ART.

**Description:** PLAEP trained and deployed community volunteers resident in the target communities to monitor the weekly operations of the savings groups. The community volunteers collect information from the groups on their savings, lending and membership status of the groups. HIV+ members periodically volunteer to provide motivation and encouragement to new group members and new groups that are formed. As the economic status improved, the HIV+ members improved in self esteem. They became more open about their HIV status with other group members. Furthermore, the discipline developed in saving, borrowing and returning the borrowed funds has resulted in positive attitude in the uptake of ART. The table below demonstrates the increase in the number of savings groups, their savings and the number of HIV+ women adhering to treatment and sharing their status with other women over a period of 4 years.

<table>
<thead>
<tr>
<th>Description</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Savings Group(SGs) Formed</td>
<td>2</td>
<td>4</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>Number of women in the SGs</td>
<td>20</td>
<td>52</td>
<td>168</td>
<td>510</td>
</tr>
<tr>
<td>Amount of Savings in the SGs(USD$)</td>
<td>600</td>
<td>3000</td>
<td>11000</td>
<td>37000</td>
</tr>
<tr>
<td>Number of women disclosing their HIV status</td>
<td>1</td>
<td>3</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Number of sex workers who are members of the SGs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table 1**

Lessons learned: Savings groups are a cost effective intervention providing economic and psychosocial benefits to HIV+ women in low income communities contributing to adherence to treatment.

**THPEE532**

**MENTOR MOTHERS ENHANCING THE QUALITY OF EMTCT SERVICES THROUGH ADHERENCE SUPPORT IN UGANDA**

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**Background:** UNAIDS Fast-Track Strategy to end the AIDS epidemic has indicated that high and consistent anti-retro viral therapy (ART) adherence is important in ensuring viral suppression. In Uganda, 66% of patients have three months adherence records; 90% good adherence, 7% fair adherence while 3% report poor adherence to ART. To establish the need for ART adherence support and contextualize adherence programming for Option B+ mothers in East Central Uganda, mothers2mothers (m2m) conducted a rapid assessment. m2m is a non-governmental and non-profit organization that works towards eliminating paediatric HIV and empowering women to nurture families using a peer approach.

**Description:** Sixteen high volume health facilities were conveniently sampled for the rapid assessment prior to roll out of the m2m adherence programme that would engage peer mentor mothers (MMs) in maternal ART adherence education, 7-day recall adherence assessment, and client follow-up. Ministry of Health client records for Option B+ mothers on treatment for 9-12 months (n: 197) were reviewed, data analysed using Excel, MMs trained and supported to provide adherence support and report outcomes. A follow-on assessment (n: 165) was conducted four months after the m2m adherence programme to assess the contribution of MMs towards patient adherence to therapy.

**Lessons learned:** Mothers receiving adherence education by facility health workers prior to maternal ART initiation improved from 56% (ci 49-63%) to 74% (ci 67-80%), and mothers assessed for non-adherence during their last visit from 60% (ci 53-67%) to 73% (ci 66-80%). Over the same period, MMs provided adherence education and pre-assessment for non-adherence to a monthly average of 1188 (100% of mothers seen by MMs). The proportion of Option B+ mothers identified in the category of ‘low adherent clients’ using a 7-day recall period declined from 7% (n: 1140, ci 55-88%) in September 2015 to 2% (n: 778, ci 24-45%) in December 2015. MMs contributed to increased coverage of adherence support and reduced non-adherence among peers.

**Conclusions/Next steps:** The positive differences between the pre-intervention and post-intervention periods confirm the contribution of MMs in increasing coverage of adherence support and reducing non-adherence among peers in Uganda. This has implications for control and eventual eradication of HIV infection and resistance.

**THPEE533**

**ADHERENCE TO SCHEDULED CLINIC APPOINTMENTS FOR PEOPLE LIVING WITH HIV ON TREATMENT IN 8 FACILITIES IN CÔTE D’IVOIRE**

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**Background:** Sustained adherence to antiretroviral therapy (ART) is essential to achieve and maintain HIV suppression, to avoid drug resistance, and to improve survival of people living with HIV (PLHIV). Adherence to scheduled clinic visits can provide an indication of ART adherence. In 2013 in Côte d’Ivoire, 67% of clients started on treatment were known still to be alive and on treatment after 12 months. One local study indicates 38% of loss to follow up (LTU) occurs within the first 6 months. Ihpiego is supporting the government of Côte d’Ivoire to develop and implement an integrated chronic care model to improve patient adherence and retention. A quasi-experimental pre-test post-test design with intervention and matched comparison sites is being undertaken to evaluate the intervention’s impact. ART adherence and predictors of adherence were analyzed using baseline data from 8 facilities.

**Methods:** Data were collected from 488 HIV clinical records for PLHIV 15 years of age or older who initiated ART between 1 January 2013 and 31 July 2015 in urban health centers. Data on sociodemographic characteristics, health history, HIV care received, and appointment attendance were collected. Using STATA, adherence to care was measured by comparing scheduled vs. actual date of clinic visit. Associations between adherence and patient characteristics were also assessed.
Background: Outreach workers (ORWs) are critical front-line health personnel and are often least equipped to address many challenges of their clients. The Indian PMTCT programme is one of the largest in the world and engages ORWs to facilitate uptake of services. However, limited programmatic data are available, and programme effectiveness is unknown. As part of baseline assessment of the COMBInsoy/Commuinity-based InDa (COMBINDo) Prevention of Mother to Child Transmission of HIV study, which will evaluate eHealth technology-based intervention to enhance ORW capacity in India, we collected baseline data on some of the challenges faced by ORWs and the opportunities perceived by them to enhance PMTCT programme implementation.

Methods: Group discussions from 40 ORWs from 3 training sites in 3 districts of Maharashtra were analyzed using thematic approach. An assessment of the primary challenges faced by ORWs as well as their perception of a novel behavioral training and mHealth platform to facilitate their work activities was performed.

Results: Numerous challenges exist for ORWs as they engage with their clients, such as lack of HIV testing kits, antiretroviral drugs (ARVs), lack of training/knowledge of PMTCT, infant feeding guidelines among hospital staff, ORWs state that clients’ challenges include financial costs travelling to ART center, loss of daily wages, non-affordability of infant formula, and financial dependence on family. Both ORWs and clients reported lack of motivation and rude behavior of health care staff and not providing necessary services to women in the PMTCT programme. ORWs mention that there is a critical need for tools and trainings that can develop their capacity to communicate, engage, deliver appropriate care and guidance and enhance client’s positive attitudes.

Conclusions: Given the significant challenges faced by ORWs and to address their perceived opportunities, we conclude that a tool that enhances the ORW’s inter-personal counseling skills to better engage clients to access and retain in care and treatment is urgently needed. COMBIND study intervention using mHealth technology that supports effective communication through counseling videos, scripts and SMS alerts may enhance the ORW’s capacity to increase uptake of PMTCT services by their clients may optimize PMTCT programme implementation.

THPEE35 THE EFFECTS OF FINANCIAL INCENTIVES ON VIRAL LOAD SUPPRESSION AMONG HOMELESS PEOPLE WITH HIV

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Background: While the evidence on the association between financial incentives and antiretroviral (ARV) adherence is mixed, previous efficacy studies have not examined this intervention in conjunction with integrated care in healthcare settings. This study examines the effectiveness of the Viral Load Suppression Intervention (VLSI), a two-year demonstration project at a large healthcare and social service agency in New York City. In order to achieve viral suppression (>200 copies/mL) among homeless people with HIV on ARVs, the VLSI added a quarterly $100 gift card incentive to existing agency services such as primary care, psychosocial services, and case management. We hypothesize that financial incentives for marginalized people with barriers to adherence, when added to services, can trigger behavior change around adherence.

Methods: Using 441 participants as their own controls, we assessed laboratory results at three-month intervals for a year prior to VLSI enrollment, and followed participants for 21 months post-enrollment. Multiple pre-intervention time-points established a stable baseline, allowing us to control for engagement with existing services and examine the effects of the financial incentive.

Results: Among 441 participants at 21 months, 90% were virally suppressed, compared to 66% at enrollment (p < .0001). Comparing longitudinal data before and after enrollment, we found that 69.4% of participants were virally suppressed at every time-point after enrollment, compared to 50.3% of participants who were virally suppressed at all time-points before enrollment (p < .0001). Moreover, participants were virally suppressed at 83% of time-points post-enrollment, compared to 72% of time-points pre-enrollment (p < .0001).

Conclusions: Financial incentives added to existing services significantly improved ARV adherence among clients. These results, in conjunction with results from previous research, indicate that while financial incentives by themselves may not be effective, they interact with available services in real-world agency settings to significantly improve adherence among clients confronted with barriers such as homelessness, substance use and mental illness. The VLSI provides a protocol for utilizing financial incentives that can be applied in other agencies serving similar at-risk populations on ARVs. Our results lay the foundation for future research that examines the ways in which financial incentives interact with agency services to effect health behavior change.
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Background: In Uganda there is a nationwide program to provide free antiretroviral treatment (ART). Despite this, the uptake of HIV care is still low in many of the rural areas. To address this, Rural Action Community Based Organisation (RACOBO) in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. Despite this, the uptake of HIV care is still low in many of the rural areas. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services. To address this, RACOBO, in partnership with Pharmacists without Borders Sweden, funded by Forum Syd, implemented a project with the purpose of increasing uptake, retention and adherence to ART services.
ties; 3) supporting retention of HIV-positive mothers through family support groups (FGS); and 4) training staff in active screening for HEIs in immunization clinics and other service points and collecting samples at the mother-baby care points within MCH services.

Lessons learned: To improve first DNA-PCR uptake for HEIs, key bottlenecks must be identified at all points in the PMTCT cascade and addressed. While scaling up access to DNA-PCR testing led to an initial spike in uptake, incremental gains in the total number of infants tested and quality of the service were only realized after targeted interventions to resolve PMTCT programming gaps were implemented (see fig 1). The median age at first DNA-PCR progressively reduced from 2.7 to 1.8 months while DNA PCR positivity fell from 8.3% to 3.7%.

Conclusions/Next steps: Scaling up DNA-PCR services should be complemented by interventions to improve program quality.

**THPEE542**

**A SYSTEMATIC REVIEW OF FACILITY AND COMMUNITY-BASED INTERVENTIONS TO IMPROVE RETENTION OF HIV-POSITIVE PREGNANT WOMEN AND HIV-EXPOSED INFANTS ALONG THE PMTCT CONTINUUM OF CARE**

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Background: Despite the demonstrated success of Prevention of Mother-to-Child Transmission of HIV (PMTCT) programs in improving maternal and infant health outcomes, the poor retention seen in the “Option B+ era” poses a formidable challenge to achieving the elimination of vertical HIV transmission in low and middle-income countries (LMICs). This systematic review summarizes literature on facility-based and community-based strategies that demonstrate statistically significant improvements in retention of HIV+ pregnant and breastfeeding women and infants along the PMTCT cascade.

Methods: A systematic search of PubMed, EMBASE, CINAH and PsycInfo was conducted to identify peer-reviewed studies published between 1990 - 2015 that captured significant PMTCT outcome improvements for retention of pregnant women and infants. All reviewed studies contained data on retention along the PMTCT cascade of care—from maternal HIV testing and counseling through infant diagnosis and follow-up. Studies were grouped by maternal or infant retention indicators as defined by the principal outcomes measured in each study. Study rigor was assessed by an 8-item assessment tool previously developed for systematic reviews of HIV behavioral interventions.

Results: Out of 686 citations reviewed, 24 articles (12 prospective cohorts, 7 retrospective cohorts, and 5 controlled trials) met criteria. Among studies of maternal retention indicators, most measured pregnant women initiated on combined antiretroviral therapy (cART) (n=11) and loss to follow-up (LTFU) rates (n=8). Among studies of infant indicators, the majority measured uptake of early infant diagnosis testing (n=14) and LTFU rates (n=10). Three community interventions, ten facility-based interventions, and eight combination interventions of community and facility-based components were reviewed. Four studies assessed retention of women and infants in Option B+ programs. Limitations of reviewed studies include small sample size, limited geographical location, and non-randomized assignment and selection of participants.

Conclusions: This review summarizes standalone and combination interventions, including comprehensive, family-centered care, and patient tracking, that are demonstrably effective in retaining HIV-positive mothers and their infants in the PMTCT continuum of care. Given the recent international normative guidance recommending the universal testing and treatment of all people living with HIV, additional research is needed to design effective interventions that improve retention in PMTCT and broaden HIV programs.

**THPEE541**

**AGE AT HIV DIAGNOSIS AND TIME TO ENROLMENT INTO HIV CARE AND ART INITIATION IN CHILDREN Aged < 1 TO 14 YEARS FROM 2009-2014, TANZANIA**

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Background: Early identification of HIV infection and timely enrollment into care are critical for successful treatment of HIV positive children. WHO recommends that all children <15 years are initiated on antiretroviral treatment (ART) immediately after diagnosis. Information on age at which children are diagnosed for HIV and how long it takes to enroll and initiate ART is inadequate in Tanzania. We assessed changes in age at diagnosis and length of time from diagnosis to enrollment into care, and ART initiation from 2009-2014.

Methods: We analyzed routinely collected data from 291 HIV care and treatment clinics (CTC) with electronic recording of patient information. Demographic information of children aged ≤14 years enrolled between 2009 and 2014 were analyzed. Descriptive statistics were used to obtain median age at diagnosis, median time from diagnosis to enrollment; and proportions of children diagnosed by selected characteristics.

Results: 41,627 children were diagnosed with HIV and included in the analysis. Median age at diagnosis was 4.74 years (IQR 1.78-8.87) and did not change over the years. 17,306 (41.6%) were diagnosed at the age of <25 years. The majority were diagnosed by Provider Initiated Testing and Counseling (PITC) (83.7%) mainly through hospitals (58.6%) while Home Based Care (HBC) and Prevention of Mother to Child Transmission (PMTCT) contributed few children (0.9%) each. Median time to enrollment was 2.1 days across all calendar years with 39,053 (86.9%) enrolled within 1 month. Median time to ART initiation decreased from 1.6 months (IQR 0.3-11.5) in 2009-2010 to 0.7 months (IQR 0.4-2) in 2011-2012 and 0.2 (IQR 0-1) in 2013-2014 (p=0.0001). 22,502(49.9%) initiated ART within 1 month while 8,951(19.8%) initiated within 26 months.

Conclusions: Children are still being diagnosed at older ages, and few children are enrolled directly from the PMTCT program. Most children are enrolled into HIV care within a month of HIV diagnosis, but 20% of them wait more than six months before ART initiation. Strengthening the linkage between PMTCT and CTC will ensure that infants with an early diagnosis of HIV at PMTCT sites are enrolled and initiated on ART in line with WHO recommendations.

**THPEE543**

**EFFECTIVENESS OF A BI-WEEKLY MATERNAL HEALTH TEXT MESSAGES INTERVENTION AIMING TO IMPROVE CLINICAL OUTCOMES OF HIV-POSITIVE WOMEN PARTICIPATING IN MAMA SOUTH AFRICA IN JOHANNESBURG**

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Background: mHealth interventions have the potential to improve health outcomes, but mHealth intervention research focussed on HIV-positive pregnant women is sparse. Mobile Alliance for Maternal Action (MAMA) South Africa was a maternal health mHealth intervention implemented in public health clinics.

Methods: Between April 1, 2013, and August 20, 2014, free bi-weekly maternal health and PMTCT messaging through MAMA South Africa was offered to pregnant HIV-positive women attending public antenatal care (ANC) clinics in Johannesburg’s inner-city. Messages were customised for gestational age and age of infant and relevant to the South African context. The content included maternal health and HIV-related support. We compared clinical and birth outcomes with HIV-positive pregnant women who did not receive the intervention.
Results: A total of 235 intervention, and 586 control participants were included. Most women attended their first ANC visit after 20 gestation (intervention: 63.8%; control: 75.7%, p=0.002). Controlling for differences in date of first ANC visit using ANCOVA, intervention participants attended more antenatal care visits (4.8 vs 4.3, p=0.019). Intervention participants were also more likely to attend the four recommended ANC visits (RR: 1.41 [95% CI:1.15-1.72, p=0.001]). There was a trend in the intervention group towards attending infant PCR testing within the recommended six weeks after birth (81.3% vs 75.4%, p=0.064). Intervention participants were likely to have a normal vaginal delivery (RR: 1.1009 [95% CI:1.02-1.19] and a lower risk of delivering a low birth weight infant (< 2500 g) (RR=1.1368 [95% CI:0.02-1.07, p=0.035]). There was at least one piece of missing data for each participant.

Conclusions: While the intervention group was more likely to attend PCR testing within the recommended time, this result was not statistically significant. However, a statistically significant increase in average number of ANC visits attended was found, along with an increased likelihood of attending at least four ANC visits, and improved birth outcomes for pregnant women and newborns. Based on these findings, national maternal mhealth programmes, such as MomConnect, have the potential to improve pregnancy outcomes and impact should be regularly evaluated.

THPEE544
LOW RATES OF SUCCESSFUL DEFAULTER TRACING AND RE-ENGAGEMENT IN CARE IN OPTION B+: WOMEN IN CENTRAL MALAWI
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Background: Under EQUIP, a USAID/PEPFAR project, Health Surveillance Assistants (HSAs) were trained to trace women lost to follow up from Option B+; provide basic education about the importance of antiretroviral therapy (ART) for maternal and infant health, and encourage women to return to care. Limited data exist around whether women traced in this manner re-engage in care and are retained.

Methods: Between October 2014 and April 2015 we reviewed ART registers at 14 health centers in Central Malawi to determine the number of women who had defaulted from care (>60 days without ART). HSA records were reviewed to determine how many women were successfully traced, and of these, how many agreed to return to care. ART registers and patient files were reviewed three months after tracing to determine how many women re-engaged in care (defined by having at least one appointment after tracing) and were retained in care for at least 90 days.

Results: A total of 289 women met criteria for default and were traced by HSAs. Fifty seven women (17%) were successfully located and received ART education about the importance of antiretroviral therapy (ART) for maternal and infant health, and encouraged women to return to care. Limited data exist around whether women traced in this manner re-engage in care and are retained.

Facility Number of women meeting criteria for default (>60 days without ART) N (%) successfully traced by HSAs N (%) retained 3 months after tracing

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number of women meeting criteria for default (&gt;60 days without ART)</th>
<th>N (%) successfully traced by HSAs</th>
<th>N (%) retained 3 months after tracing</th>
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<tbody>
<tr>
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<td>12</td>
<td>6 (50)</td>
<td>4 (67)</td>
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<td>6</td>
<td>1 (17)</td>
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</tr>
<tr>
<td>14</td>
<td>6</td>
<td>2 (33)</td>
<td>1 (50)</td>
</tr>
<tr>
<td>Total</td>
<td>289</td>
<td>50/289 (17)</td>
<td>26/49* (33)</td>
</tr>
</tbody>
</table>

*Those who transferred to another facility or died after return to care were considered retained in care.
**Of the five individuals traced, one individual declined to return to care.

(Table. Site-level data on the number of women defaulting from care and successful tracing and retention rates.)

Conclusions: A small proportion of women who default from Option B+ were successfully traced by HSAs and almost half of these women were lost from care within three months of re-engagement. Interventions that identify women’s challenges and help address specific barriers are needed to improve retention in Option B+.

THPEE455
“When Do I Stop This?”: Challenges to Accepting Lifelong Treatment Among Pregnant Women in Kinshasa, DRC, and Counseling Strategies to Address Them
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The Programme National de Lutte contre le Sida, Kinshasa, Congo, Republic of the

Background: Implementation of universal lifelong antiretroviral treatment (“Option B+”) for HIV-infected pregnant and breastfeeding women began in the Democratic Republic of the Congo (DRC) in September 2013. Other country experience suggests pregnant women initiated on treatment the day they are diagnosed HIV-positive are at elevated risk of defaulting from antenatal care. One study objective was to document factors contributing to loss to follow-up among HIV-positive pregnant women and suggested additional strategies to address retention.

Methods: In July-August 2015, 29 healthcare providers participated in interviews; 25 mentor mothers (HIV-positive expert patients) participated in four focus groups. Sixteen EGPAF DRC-supported facilities in Kinshasa with high volume and high HIV prevalence were purposively selected. Topics included women’s Option B+ perceptions and experiences and counseling strategies to encourage lifelong treatment acceptance. Audio recordings from sessions were transcribed and translated from French or Lingala into English. Data were prepared for analysis using a standardized codebook and analyzed using MAXQda (V10).

Results: Study respondents described pregnant women’s difficulty with accepting lifelong antiretroviral therapy (ART). Women often expressed shock or felt punished and struggled to comprehend, with questions such as “When do I stop this?” With intensive and ongoing counseling and the establishment of trusting relationships with clinic staff, most women accepted and adhered to medication. However, nearly all facilities had cases of women who refused treatment. Frequently reported reasons included conflicting guidance from pastors to pray instead of taking medication and fear of stigmatization, particularly from male partners. Table 1 depicts strategies employed by providers and mentor mothers to encourage treatment acceptance and reasons women provided respondents for refusing lifelong treatment. Responses were similar across participant groups, though providers reported drug functionality and mentor mothers reported testimonials slightly more often as strategies.

<table>
<thead>
<tr>
<th>Option B+ Counseling Strategies Used to Encourage Treatment Acceptance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Delivering counseling messages with kindness and sensitivity to cultivate a trusting relationship between provider/mentor mother and clients • Providing messages that include the importance of taking ART and how drugs function in the body • Including testimonials from mentor mothers on how they remain healthy and have prevented infection in their children • Linking HIV to a chronic disease like diabetes that requires management • Referring to a possible future cure for HIV</td>
</tr>
</tbody>
</table>

Reported Reasons for Refusing Lifelong Treatment:

• Relying upon religious convictions or guidance from pastors to pray instead of taking medication • Not disclosing HIV status to partner or family members out of fear of stigmatization • Believing in witchcraft or demonic origins of illness • Experiencing side effects, for those who may have initially accepted • Looking and feeling healthy • Not believing test results, possibly due to having a serodiscordant partner

(Table 1: Frequently Reported Option B+ Counseling Strategies and Reasons for Refusing Lifelong Treatment)

Conclusions: Treatment acceptance is a significant challenge for Option B+ scale-up. Lessons learned through this evaluation to encourage treatment acceptance and promote retention could be incorporated, such as sensitization workshops for religious leaders, couples counseling strategies, and HIV-related training for mentor mothers to comprehensively address women’s needs.

Refusing Lifelong Treatment

• Religion: • Relying upon religious convictions or guidance from pastors to pray instead of taking medication • Not disclosing HIV status to partner or family members out of fear of stigmatization • Believing in witchcraft or demonic origins of illness • Experiencing side effects, for those who may have initially accepted • Looking and feeling healthy • Not believing test results, possibly due to having a serodiscordant partner
Background: In 2014, Cameroon adopted the option B+ strategy released the previous year in the World Health Organization guidelines to eliminate mother to child transmission of HIV (MTCT). However, high rates of loss to follow-up (LTFU) observed in many countries with a generalized HIV epidemic could jeopardize the effectiveness of this strategy. Within the framework of the SIMECAM-FGSK study that aims at facilitating integration of couple-oriented counseling and option B+ in the antenatal care (ANC) package in primary health care structures, we evaluated the impact of reminder calls and community interventions on PMTCT.

Description: An intervention called couple-oriented counseling (COC) successfully increased the number of male partners who came back for HIV testing in ANC units in urban areas. The SIMECAM-FGSK study introduced COC in the ANC package together with option B+ intervention in the PMTCT program in six health care facilities in rural areas in the East region of Cameroon. Reminder calls were conducted if appointments were missed for at least two week. In case of unsuccessful calls, home visits (HV) were carried out. This analysis was realized in the subgroup of HIV-infected women who missed at least one scheduled visit.

Lessons learned: From February 2014 to September 2015, 719 pregnant women were included. Among them, 13.5% (97/719) were HIV-infected. Ninety five (98%) HIV-infected were initiated on ART and 29 (30%) missed at least one scheduled visit for care. 81 calls (median per woman: 2 (IQR, 1-4)) and 21 HV were made leading to 83% (24/29) HIV-infected women being reintegrated in care. These interventions increased retention rate among HIV-infected women to 91% at six months.

Conclusions/Next steps: these interventions (p< 0.001). During the study period, seventy two HIV-infected women were initiated on ART and 29 (30%) missed at least one scheduled visit. Among them, 13.5% (97/719) were HIV-infected. Ninety five (98%) HIV-infected were initiated on ART and 29 (30%) missed at least one scheduled visit for care. 81 calls (median per woman: 2 (IQR, 1-4)) and 21 HV were made leading to 83% (24/29) HIV-infected women being reintegrated in care. These interventions increased retention rate among HIV-infected women to 91% at six months.

Lessons learned: These interventions found to be most effective were:

- Training clinic staff to provide YFS
- Improvement of facility infrastructure
- Community-based activities to reduce stigma and generate demand
- Presence of dedicated provider

Conclusions: EITS is simple and easy to replicate in low resource settings. It enables easy identification of primary outcomes, promotes efficient tracking, allows for timely planning of HIV interventions, and serves as an excellent tool for research purposes.
Background: Novel strategies are needed to increase retention in prevention of mother-to-child HIV transmission (PMTCT) services and virologic suppression. We have recently shown that among HIV-infected women, small, incremental financial incentives resulted in increased retention along the PMTCT cascade. However, it is unknown whether women who receive incentives to attend clinic visits will be as adherent to antiretrovirals as those who do not. We sought to determine whether the proportions of women in care at six weeks postpartum who adhered to their antiretrovirals (measured by pill counts) and achieved an undetectable viral load differed between the two study groups.

Methods: We randomly assigned HIV-infected women, ≥32 weeks pregnant, were randomized to the standard of care (control group) or intervention group. Women were randomized 1:1 to an intervention or control group. The intervention group received compensation ($5, plus $1 increment at each subsequent visit) conditional on attending scheduled clinic visits and accepting offered PMTCT services; the control group received usual care.

Results: Among 433 women enrolled and randomized (216 intervention and 217 control), 332 (76.7%) remained in care at six weeks postpartum, including 174 (80.6%) in the intervention group and 158 (72.8%) in the control group. Pill count data were available for 297 participants (89.5%), 156 (89.7%) and 141 (89.2%) in the intervention and control groups, respectively. The proportion of women with perfect adherence was 69.9% (109/156) and 68.1% (96/141) in the intervention and control groups, respectively (risk difference (RD), 0.02; 95% confidence interval [CI], -0.06, 0.09). Viral load results were available for 171 (98.3%) and 155 (98.7%) women in the intervention and control groups, respectively. An undetectable viral load was attained by 66.1% (113/171) of the intervention group and 69.7% (108/155) of the control group (RD: -0.04; 95% CI, -0.14, 0.07). Results were similar after adjusting for marital status, age, education, baseline CD4 count, baseline viral load, gestational age, and initial antiretroviral regimen.

Conclusions: While provision of cash incentives to HIV-infected pregnant women led to higher retention in care at six weeks postpartum, those retained in care, adherence to antiretrovirals and virologic suppression did not differ by study group.

**THPEE550**

THE EFFECT OF CONDITIONAL CASH TRANSFERS ON RETENTION IN AND UPTAKE OF PMTCT SERVICES VARIES BY PERCEIVED SEVERITY OF HIV AND PMTCT BENEFIT: A RANDOMIZED CONTROLLED TRIAL

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Background: To elucidate the mechanisms by which a cash incentive intervention increases desired prevention of mother-to-child transmission (PMTCT) outcomes, we identified perceptual factors associated with retention in and uptake of PMTCT services through six months postpartum, and assessed their interactions with a cash incentive intervention.

Methods: We used data from a randomized controlled trial in Kinshasa, Democratic Republic of Congo. Four hundred thirty-three newly diagnosed HIV-infected women, ≥32 weeks pregnant, were randomized to the standard of care (control group) or to the standard of care plus small and increasing financial compensation conditional on clinic attendance and service uptake (intervention group). Perceptual factors associated with loss to follow-up (LTFU) and uptake of PMTCT services (in care and accepted all available PMTCT services) through six weeks postpartum were first identified in the standard of care group. Then, in the combined dataset, linear risk models were used to assess risk difference modification.

Results: In the control group, participants were less likely to be LTFU if they perceived HIV as a “very serious” health problem for their baby vs. not (perceived severity of HIV, and if they believed it would be “very likely” that they will pass HIV on to their baby if they did not take any HIV drug vs. not (perceived PMTCT benefit (Table 1). Perceived severity of HIV was the only factor associated with increased uptake of PMTCT services. Receiving the cash incentive intervention was strongly protective against LTFU and improved uptake of PMTCT services. However, the protective effects of 1) perceived severity of HIV and 2) perceived PMTCT benefit were not additive to the protective effect of the cash incentive.

**THPEE565**

TOWARD ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV: INTEGRATING HIV TREATMENT WITHIN MATERNAL AND CHILD HEALTH SERVICES FOR IMPROVED RETENTION OF MOTHER-BABY PAIRS AND OUTCOMES IN MOMBSABA COUNTY, KENYA

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Background: Traditionally, MCH clinics provide prophylaxis for PMTCT, but women and infants who need ART are usually referred to HIV clinics in another area of the facility or to another facility altogether. The need to attend separate clinics creates barriers to care, including increased cost, stigma, missed appointments, and even loss-to-follow-up.

Description: The USAID-funded APHIAPlus Nairobi-Coast project, led by Pathfinder International, supported high-volume facilities in Mombasa county to integrate HIV treatment within MCH services from 2014 to 2015. Health workers were trained, and the project provided basic equipment, ARV and OI management drugs, standard government data collection tools, ongoing mentorship, and regular supportive supervision. Key integration components included: ensuring that all pregnant and breastfeeding women were tested; initiating immediate HAART for those found to be positive; follow-up of mother-baby pairs with infant testing during immunization visits; and mothers’ viral load testing, according to Kenya’s national guidelines.

From 2014 to 2015, a total of 340 HIV-infected pregnant women and their HIV-exposed infants (HEI) were followed throughout the cascade until 18 months of age. Data from three facilities [Coast PGH, Port-Reitz and Tudor] was collected using standard government tools during the intervention to document lessons learned.
Lessons learned: HIV testing at ANC remained consistently high at 98% even after the intervention; yet, provision of HAART to HIV-positive women improved mark-
dedly—from 55% (98 of 178 women) in 2014 to 99% (187 of 189 women) in 2015. DNA PCR testing of HIV at 6 weeks was improved from 70% in 2014 to 94% in 2015, with transmission rates at six weeks of 3% in 2014 and 1% in 2015. Follow-up of mother-baby pairs at 9 months also improved from 62% in 2014 to 87% in 2015, with transmission rates of 5% in 2014 and 2% in 2015.

Conclusions/Next steps: Integration of comprehensive HIV care and treatment ser-
vice into MCH has the potential to: expand access to ART for HIV-infected pregnant and breastfeeding women; improve follow-up and retention of mother-baby pairs; and improve provision of prophylaxis for HI. This could help achieve elimination of vertical HIV transmission. The project has since scaled up this intervention to other high-volume MCH facilities.

THPEE562
EARLY ART INITIATION AMONG HIV-POSITIVE PREGNANT WOMEN IN CENTRAL MOZAMBIQUE: PRELIMINARY FINDINGS FROM A STEPPED WEDGE RANDOMIZED CONTROLLED TRIAL OF AN OPTIMIZED OPTION B+ APPROACH

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Background: The present randomized trial studied the performance of Option B+ in Mozambique, and evaluated an enhanced retention package in public-sector clinics. Methods: 761 pregnant women tested HIV+, immediately initiated ART, and were followed to track retention across 6 clinics in Sofala and Manica Provinces, Mozambique from May 2014 - May 2015. Clinics were randomly allocated within a stepped-wedge fashion to intervention and control periods, with the intervention including:

(1) workflow modifications;
(2) enhanced patient tracking;
(3) adherence committees to systematize follow-up;
(4) active patient follow-up including home visits;
(5) text messages to patients; and
(6) improved counselling and supervision.

Results: During control periods, 52.9% of women returned within 10 days of their scheduled 30-day ARV pickup, compared to 70.8% of women in intervention periods (Odds ratio [OR]: 1.80; 95% Confidence interval [CI]: 1.05, 3.08). This difference was 46.1% control vs. 57.9% intervention at 60 days (OR: 1.82; CI: 1.06, 3.11), and 38.3% (Odds ratio [OR]: 1.80; 95% Confidence interval [CI]: 1.05, 3.08). This difference was scheduled 30-day ARV pickup, compared to 70.8% of women in intervention periods.

Conclusions: An enhanced retention package was effective at increasing retention at 30 and 60 days for women attending public-sector clinics. However, retention at 90 days under Option B+ was very low - only a combined 40% returned within 10 days of their 90-day ARV pickup. Targeted efforts to increase retention may be particularly important for women giving birth prior to their first few ARV pickups.

THPEE553
RETENTION-IN-CARE FROM DELIVERY THROUGH 18 MONTHS POSTPARTUM AMONG HIV-POSITIVE MOTHERS RECEIVING LIFELONG ART IN KIGALI, RWANDA

D. Naditina1, G. Ndayisaba2, E. Bobrow3, M. Gill4, L. Adar5, L. Guay6, P. Mugwanzezi7, A. Asimw8, Kabeho Study Team

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Background: The Kigali Antiretroviral and Breastfeeding Assessment for the Elimination of HIV (Kabeho) Study is an observational prospective cohort evaluation of the PMTCT program in Kigali following Option B+ implementation. Maternal retention-in-care from delivery (n=601) through 18 months postpartum was as-

Methods: Mothers enrolled from third trimester of pregnancy until two weeks post-
partum from 18 high-volume sites were scheduled to attend monthly study visits, aligned with their routine PMTCT clinic visits. Health facilities conducted tracing within two weeks after missed clinic visits. If a mother did not attend a study visit within one week before or three weeks after the scheduled appointment, it was considered a missed study visit. Full retention was defined as attendance at 70-
100% of scheduled visits, partial retention was 30-69.9%, and not retained in care was less than 30% of scheduled visits, excluding deaths.

Results: Between May 2013 and November 2015, PMTCT attendance was tracked with highest attendance at 6 weeks (88.7%), 9 months (81.4%) and 18 months (82.3%), corresponding to testing time points for HIV-exposed children. 80% of samples for early infant diagnosis were collected by 14 weeks. Thirty-four (5.8%) mothers terminated their infant’s involvement; reasons included 26 relocations, 5 consent withdrawls, 3 other reasons, although women may have continued to at-
tend PMTCT. Of the 601 women who gave birth to 608 infants, there were 32 infant deaths, with 18 of those deaths and one withdrawal before the 6-week visit. A total of 458 (80%) women were fully retained at 18 months postpartum, 91 (15.7%) were partially retained and 31 (5.3%) were not retained in care. Overall, 121 (20%) women missed three consecutive visits throughout the study.

Conclusions: Retention-in-care was high, yet missed visits and thus, ART interrup-
tion remains an issue even in an urban area with easier access to facilities. Highest attendance was at testing times for HIV-exposed children.

THPEE564
Virologic Outcomes Among Women Initiating Antiretroviral Therapy Through the Option B+ Program in Malawi: 6 Month Results from the Pure Study


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Background: In 2011, Malawi launched Option B+, a program of universal ART treat-
ment for pregnant and lactating women to optimize maternal health and prevent pediatric HIV infection. For best results, women need to achieve HIVRNA suppres-
The Malawi ART program supports HIVRNA testing at 6 months as a first as to treat analysis (missing HIVRNA= failure), the overall cohort suppression rate was 53% (671/1272) but this likely underestimates suppression. There was no statistical difference in HIV suppression according to age (< 25 vs. 25 and above), WHO stage (Stage 1 vs. Other), or Pregnancy vs. Breastfeeding status.

Conclusion: The virologic suppression rate of 80.5% seen in our study is compara-
table to national estimates but is below proposed targets of 90% suppression while on ART. High virologic testing rates must be achieved to accurately determine HIV suppression rates. Increased effort to promote adherence in the Option B+ program is necessary to achieve optimal outcomes.

THP555 MOBILE PHONE TEXT MESSAGE INTERVENTION FOR PROMOTING HIV TESTING OF INFANTS BORN TO HIV-POSITIVE WOMEN IN RURAL COMMUNITIES, OSUN STATE, NIGERIA

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Background: Early diagnosis of HIV in infants provides a critical opportunity to strengthen follow-up of HIV-exposed children and assure early access to antiretroviral (ARV) treatment for infected children. Infants born to HIV-infected mothers are exposed to the virus and if infected, have a 50 percent chance of dying before they reach the age of two. This intervention therefore determined to determine the effectiveness of using text messages to improve HIV testing rate of infants born to HIV-positive women in Osun State, Nigeria.

Description: This intervention was carried out among 132 HIV-positive women who were recruited after delivery. Health Belief Model was used for the development of discussion guides and crafting of text messages. Infant HIV prevention education were discussed with participants’ through text message for promoting postnatal clinic attendance. Participants’ were followed up for 12 months and the intervention was evaluated at 6 and 12 months. Data were analyzed using descriptive statistics, Chi-square and t-test.

Lessons learned: Mean age of participants was 24.2 ± 6.1 years and 83.9% had secondary education. Participants’ knowledge of HIV prevention among infants increased from 5.8% to 30.2% within 6 months and 91.1% at 12 months. Postnatal clinic attendance increased from 21.2% to 59.4% within 6 months and 91.9% after 12 months. Number of children identified as HIV positive increased from 1.7% to 4.3% within 1 year and 2.2% of the children died before the return of their DNA PCR results. Lack of information, fear of HIV testing, religious beliefs and transportation cost were identified as important barriers to postnatal clinic attendance. Most participants felt the study text messages were brief, caring, polite, encouraging and educative for promoting women bringing their children to clinic after delivery. Participants generally suggested that text messages should not mention HIV.

Conclusions/Next steps: Information and education are important to encourage and remind women to attend postnatal clinic, facilitate early infant HIV testing. Text message could be a useful tool to disseminate information and promote postnatal clinic attendance but such messages should not mention HIV/AIDS.
with time in the intervention group but was not significant at the end of 24 months (P=0.386). Loss to follow-up (LTFU) was three times higher in the control group as compared to the intervention.

Conclusions: PLH in the intervention group had improved clinical outcomes over time and very minimal LTFU during their active participation in the intervention. The results suggest the need for additional engagement of and support of PLH through psychoeducation programs such as MAWRITA to supplement the current routine counseling in order to improve clinical outcomes and reduce LTFU in the long-term.

THPEE568

OPTION B+/B+ STRATEGY IMPROVES ACCESS TO ART FOR ART-NEGATIVE WOMEN IN SOUTH AFRICA

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Background: Universal multi-drug antiretroviral treatment in a fixed dose combination in pregnancy (Option B+/B+) is a global strategy to eliminate mother-to-child transmission of HIV and to ensure that women requiring ART are initiated in pregnancy. The study aims were to assess whether change in ART guidelines increases the number of women accessing ART treatment and assess other benefits of universal triple drug treatment for HIV positive pregnant women in South Africa.

Description: We conducted a maternity audit at a large regional hospital in KwaZulu Natal, South Africa during July-December 2011 and January-June 2014. During 2011, women received either ZDV/sdNVP or D4T/3TC/NVP if their CD4 count was < 350 cells/ml (Option A). During 2014, all HIV positive pregnant women were eligible for a fixed dose combination (FDC) of triple ARVs (TDF/FTC/EFV) (Option B+B+).

Lessons learned:

- Postnatal followup would be needed to monitor maternal adherence to ART.
- Significant improvement in the number of women who needed ART being initiated for DNA PCR at 6 weeks in 2015 as compared to only 21% earlier. 67% of the HIV exposed babies were given to 94% of HIV exposed babies in 2015. 85% of the Babies were tested at 18 months of age by minimizing of correct and consistent date entry in the tracking format so that the gaps could be identified and corrective action taken at the earliest.
- Data generated from the format were analyzed for important indicators of PMTCT cascade, has facilitated toward planning for elimination of new HIV infections in children in the country.

THPEE569

MOTHER-INFANT PAIR CLINIC AND SMS MESSAGING AS STRATEGIES TO IMPROVE RETENTION FOR HIV+ PREGNANT WOMEN AND MOTHERS IN MALAWI: A CLUSTER RANDOMIZED CONTROL TRIAL (THE PRIME STUDY)

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Background: In 2011, Malawi’s Ministry of Health adopted the Option B+ strategy, defined as immediate initiation of all HIV+ pregnant women on lifelong antiretroviral therapy (ART), in a step to combat mother-to-child transmission of HIV. However, conduct coaching of health workers in documentation, provision of standard care package to ensure early identification of HIV+ mothers, initiation and retention of mother baby pairs into ART care.

Lessons learned: The initiatives improved HIV cares services for HIV+ mothers and the exposed infants (HEI), through improved QI approach to service delivery by health workers, participation at district and national level through support supervision and learning sessions for cross learning. From FY13 third quarter to FY15 third quarter, antenatal HIV testing improved from 28% to 91%, initiation to ART form 75% to optimal (100%), testing HEI at 6 weeks (1st PCR) improved from 28% to 68%, IYCF counselling from 58% to optimal, nutrition assessment from a half to optimal, malnutrition from 8% to 1 percent. In addition, retention of mother-baby pairs improved form 41% to 99%, and HIV sero-conversion from 25% to 4 percent in FY15 first quarter.

Conclusions/Next steps: The integration of IYCF practices and HIV care services has potential to improve access to early HIV care for pregnant and lactating mothers, retention in care, reduce malnutrition and sero-conversion, and the health facility-community linkages facilitates uptake of health services. The QI approach to integration of IYCF and HIV care services encouraged participation of health workers besides coaching and learning sessions creates a platform for continuous learning for health workers and VHTs.

Results suggest the need for additional engagement of and support of PLH through psychoeducation programs such as MAWRITA to supplement the current routine counseling in order to improve clinical outcomes and reduce LTFU in the long-term.
retention of pregnant women, especially through the end of the breastfeeding period, remains a significant problem. The Promoting Retention among Infants and Mothers Effectively (PRIME) study aims to evaluate the effectiveness of two innovative strategies: mother-infant pair (MIP) clinics and MIP plus SMS technology compared to the standard of care (SOC). MIP clinics combine HIV and routine maternal and child health services in the same place and same time while the third arm includes text messages to follow-up women who miss scheduled appointments (MIP+SMS).

Methods: PRIME is a three-arm stratified cluster randomized control trial conducted in 30 facilities across two districts. All HIV+ pregnant women attending antenatal care (ANC), regardless of ART status were eligible for enrolment. Subject enrolment and informed consent were conducted by facility staff while follow-up data were collected retrospectively by the study team from ANC and ART registers. The prima- ry outcome of the study is retention in care 12 months post-partum. This abstract shows preliminary results on ART initiation, using generalized estimated equations accounting for clustering to examine any differences between study arms.

Results: 3,365 women were enrolled between May 2013 and December 2014 (SOC n=399; MIP n=469; MIP+SMS n=497). We compared ART initiations among ART-naive women across arms (n=928). 88% in SOC compared to 91% and 93% in the MIP and MIP+SMS arms, respectively, initiated on ART. ART initiations on the first ANC visit date were also compared: 55%, 48%, and 53% in the SOC, MIP and MIP+SMS arms, respectively. No statistically significant differences were found between any two arms.

Conclusions: Intermediate results show similar ART initiation rates for ART-naive women between all study arms. These rates for women were high, yet programmatic concerns may be raised if women initiated on ART at their first ANC visit under Option B+. This ongoing study will be completed in July 2016, at which point the impact of the interventions on retention in care will be examined.

**THP652**

**Comparison of HIV Testing Yield Rates for Pregnant and Lactating Women Towards Zero New Paediatric HIV Infection: Experiences from Bwaila District Hospital, Lilongwe, Malawi**

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Background: In 2011, Malawi adapted Option B+, program in which all HIV-infected pregnant and lactating women are initiated on lifelong antiretroviral therapy regardless of WHO clinical stage or CD4 cell count threshold. This program has led to dramatic reductions in mother-to-child transmission (MTCT) among those diagnosed during pregnancy. However, MTCT may still occur in mothers who acquire HIV during the pregnancy period. We implemented an initiative to identify women who were newly diagnosed with HIV during labour and delivery.

Methods: We aimed at estimating proportion of women who were newly diagnosed with HIV during labour and delivery and estimate incidence in this population at Bwaila District Hospital. Bwaila is a large maternity hospital in Lilongwe, Malawi with 20,000 deliveries annually. All women in labour and delivery wards were tested for HIV following national protocol, regardless of past HIV testing history from Feb 2015 to December 2015. We calculated HIV incidence by assuming that each newly diagnosed HIV infected woman had been tested 4.5 months earlier with a range of 3.5 to 5.5 months earlier.

Results: A total of 4900 and 14322 women registered in labour & delivery ward during targeted and universal HTS, respectively. Referrals were 12.8% and 10% during targeted and universal HTS, respectively. Among 1,488 (30%) tested during targeted HTS, 20% pregnant, 10 were confirmatory tests, 17 (1.1%) were new HIV positive and incidence was estimated at 3.1 women per 100 per year (Range 2.5 - 3.9). Of 11,547 (81%) tested during universal HTS, 23% pregnant, 1025 (9.1%) were confirmatory tests, 66 (0.6%) were new HIV positive and the incidence was estimated at 1.4 women per 100 per year (Range 1.4 - 2.2).

Conclusions: Universal testing was essential in establishing confirmatory results, in order to provide women with treatment packages for mother infant power. However, targeted testing had a higher yield rate when compared to universal testing. A combination of routine third trimester testing during antenatal follow up, along with targeted testing focused on women that have not been tested within 3 months at time of delivery may be appropriate in resource limited settings where testing efforts could focus on other high yield points of care.

**THPEE563**

**ASSESSING THE IMPACT OF ADHERENCE FOR FACILITY-BASED, CLIENT-LED, AND COMMUNITY DRUG DISTRIBUTION POINTS ON ADHERENCE ACROSS THESE MODELS OF ART DELIVERY IN TASO-UGANDA**

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Background: TASO offers three models for antiretroviral therapy (ART) delivery: facility-based, client-led ART (CLAD) and Community Drug Distribution points (CDDPs) in 11 centers throughout Uganda. In these models, patients are allocated based on their preferences, eligibility and elapsed time on antiretrovirals (ARVs). We assessed the impact of these three delivery models on ARV adherence across all the TASO centers.

Methods: We analyzed electronic adherence data of all patients who were active on ARV in each of the models of delivery between January 1, 2004 and March 31, 2014. We then computed adherence level for each model as the number of pills taken divided by the number of pills to take since last appointment. Adherence levels were categorized as poor adherence (< 85%), fair adherence (85-94%) and good adherence (>95%).

Results: We enrolled 62,129 patients, 37% were attending a TASO facility, 59% were attending CDDP and 4% on were on CLAD. The adherence level was 87% for patients attending the facility and 88% in both patients at the CDDP and CLAD delivery models.

Conclusions: The majority of TASO patients were attending a community model and reported comparable adherence levels across all the models. These results could be because of a clearly defined eligibility and exclusion criteria for being enrolled on each models.

**THPEE654**

**TASK SHIFITNG INCREASING ACCESS TO ART AND SUSTAINING TREATMENT SUCCESS IN A PERI-URBAN PRIMARY HEALTH CARE SETTING IN SOUTH AFRICA**

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Background: The eThekwini District, in Kwa-Zulu Natal South Africa, has a high HIV prevalence, exceeding 40% among pregnant women. To scale-up anti-retroviral therapy (ART) to all those who require treatment, the South African Government implemented a task shifting strategy known as NIMART to enable nurses to initiate and manage ART. The purpose of this analysis was to demonstrate the impact that NIMART has had on access to ART and HIV treatment outcomes in peri-urban primary health care centre in the eThekwini District.

Description: Over 900 nurses have been trained on NIMART programme in the eThekwini District. In the Cato Manor Community Health Centre (CHC), 19 nurses and one master mentor (a nurse coaching NIMART nurses) were trained. Fourteen of these nurses have been independently initiating patients on ART since 2012. Patients with complications are referred to the two doctors based at the facility, but all the other cases are seen by nurses. Data on the number of people on ART and those retained in care from 2008 was compared to data from 2015 to determine the impact of NIMART.

Lessons learned: Between 2008 and 2012 before the introduction of the NIMART programme, about 3000 patients were receiving ART at the Cato Manor CHC, all initiated by doctors. Between 2012 and 2015, a further 6000 patients have been initiated on ART at Cato Manor CHC, with 66% of new initiations done by nurses. Importantly nurses have integrated HIV testing and ART initiation services in all departments within the clinic in contrast to referring AIDS patients to a dedicated vertical ART clinic. Nurses have gained a lot of experience and skills through NIMART mentorship and their skills in ART management continue to improve. Viral load suppression of patients in this facility is currently about 85%. Patients who are virally suppressed are provided with 3 months ART supply, reducing the number of visits in the facility.
**THPEE565**

**MULTI-DISEASE APPROACH TO HIV TESTING AND COUNSELING (HTC) OUTREACHES IN THE COMMUNITIES IMPROVES UPTAKE IN NIGERIA**

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**Background:** HIV Testing and Counseling (HTC) outreach is a critical service delivery approach that can improve coverage of HTC. It eliminates the barriers of access to facility based HTC and provides opportunity to serve different populations. Based on these benefits, the National Agency for the Control of AIDS (NACA), Nigeria coordinates HTC outreachs across the nation annually. However, community uptake of HTC gradually dwindles if other health needs are not addressed.

**Description:** In 2013, NACA adopted a strategic methodology to improve uptake of HTC during outreaches. A multi-disease approach was implemented for the outreachs in place of the single disease approach (HIV focused). In addition to HTC, blood pressure and sugar level checks were added to the package. Free medical consultations were also included and free drugs provided for treatment of minor ailments. Depending on what the community has identified as a need, items such as mosquito nets and water guard were also distributed.

**Lessons learned:** The implementation of multi-disease approach has improved uptake of HTC services. A four day HTC outreach as a single disease intervention applied in 3 states achieved an average coverage of 1458 persons per Local Government Area (LGA). A multi-disease approach to the delivery of HTC services over four days in 20 states achieved an average coverage of 5022 persons per LGA. The screening for other medical conditions, free consultation and medications meets other health needs of the community. Collaboration with relevant health agencies and other programme partners is crucial for implementation of an efficient multi-disease approach.

**Conclusions/Next steps:** In addition to what NACA is already doing, there is a need to identify an effective strategy for successful linkage of positive clients at outreachs to HIV care and treatment.

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**THPEE566**

**PSYCHOSOCIAL SUPPORT INTERVENTIONS TO IMPROVE RETENTION ON ART IN PEOPLE WITH HIV IN LOW- AND MIDDLE-INCOME COUNTRIES: A SYSTEMATIC REVIEW**

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**Background:** In low and middle-income countries (LMIC), better access to antiretroviral therapy (ART) has benefited people living with HIV (PLHIV) clinically and has decreased transmission. However, retention on ART can be a challenge for many patients. Psychosocial support interventions may help to improve retention in care and HIV clinical outcomes.

**Methods:** We used Cochrane Collaboration methods to search a range of databases for studies published between 1996-2015. Eligible studies could be in any language. Randomized controlled trials (RCTs) and observational studies with comparators conducted in LMIC were eligible for inclusion. We defined psychosocial support as patient support provided by non-physicians (including laypeople) to improve retention in ART care, after ART initiation. Our principal outcome of interest was retention as reported, or the combined outcome of lost-to-follow-up (LT FU) and death as reported in the studies. We considered lost to follow-up or death outcomes as the inverse of retention. We calculated relative risk (RR) with 95% confidence intervals and conducted meta-analysis when appropriate. We used the GRADE approach to assess evidence quality (EQ) across the literature for each outcome.

**Results:** One RCT from Mozambique and five cohort studies from Kenya, Mozambique, Peru, Rwanda and South Africa met inclusion criteria. We identified three types of interventions:  
1. community-based, multi-faceted treatment supporter programs;  
2. facility-based adherence clubs; and  
3. additional nursing care for high-risk patients.  
One treatment supporter intervention was in caregivers of children with HIV; all other studies were in adults.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Studies</th>
<th>Outcomes and Duration</th>
<th>RR (95% CI)</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-based treatment supporter (adults)</td>
<td>1 Cohort</td>
<td>Retention (60 months)</td>
<td>1.03 (1.07 to 1.08)</td>
<td>Low</td>
</tr>
<tr>
<td>Community-based treatment supporter (adults)</td>
<td>1 RCT</td>
<td>Retention (12 months)</td>
<td>1.14 (1.01 to 1.27)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Community-based treatment supporter (adults)</td>
<td>2 Cohorts</td>
<td>Retention (12 months)</td>
<td>1.10 (1.04 to 1.16)</td>
<td>Low</td>
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<tr>
<td>Community-based treatment supporter (children)</td>
<td>1 Cohort</td>
<td>Retention (16 months)</td>
<td>1.07 (1.03 to 1.11)</td>
<td>Low</td>
</tr>
<tr>
<td>Community-based treatment supporter (children)</td>
<td>1 Cohort</td>
<td>Retention (24 months)</td>
<td>1.05 (1.02 to 1.09)</td>
<td>Low</td>
</tr>
<tr>
<td>Facility-based adherence clubs</td>
<td>1 Cohort</td>
<td>LT FU or death (40 months)</td>
<td>0.20 (0.12 to 0.33)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Additional nursing care (adults)</td>
<td>1 Cohort</td>
<td>LT FU or death (12 months)</td>
<td>0.76 (0.66 to 0.87)</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Conclusions:** Multi-faceted, psychosocial support interventions are associated with increased likelihood of retention of ART patients in care, but evidence quality is generally low to moderate.

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**THPEE567**

**RAPID PROGRAM EVALUATION ON DETERMINANTS OF POOR RETENTION AMONG PLHIV ACCESSING CARE IN PERIPHERAL HIV CLINICS IN NIGER STATE, NORTH CENTRAL NIGERIA**

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**Background:** Retaining both pre- and current antiretroviral therapy (ART) patient population in care is a serious challenge for treatment programs in sub-Saharan African countries such as Nigeria. A retention analysis conducted showed poor retention rates across selected facilities. This Rapid Program Evaluation was aimed at identifying the underlying causes of this challenge, through a direct involvement of clients on ART in a programmatic survey and use findings to improve program interventions.

**Methods:** Two health facilities with retention rates lower than 50% out of sixteen health facilities supported by the USAID funded Pro ACT project implemented by MSH in Niger State, North Central Nigeria were selected for the survey. A short questionnaire was developed and administered to 55 clients (37 females and 18 males) currently on treatment who have defaulted in HIV clinic attendance in the last 6 months (between March and September 2015) and were tracked back to care. Data was analyzed using Microsoft Excel.

**Results:**
- Of the 54 clients interviewed, 50% clients had missed appointments at least once in the last three months. Raw data showed a higher female to male ratio (58% to 44%) of missed appointments.
- Findings showed that 75% of clients who missed appointments came from a distance less than 10km to the facility, making distance from the clinic a non-determinant for missing appointments.
- None of the clients who had missed appointments in the last three months reported being a member of a support group for people living with HIV (PLHIV).
- 33% of clients interviewed identified stigma as a reason for defaulting, 25% cited distance to health facilities, 17% stated lack of transportation, 17% other reasons and 8% refused to answer the question.

**Conclusions:** Although, the survey population is small, findings suggest a key reason for clients’ defaults to be associated more with stigma than distance from HIV Clinic and lack of transport fare. Also, they offer some critical insight into programming gaps in Niger State, North Central Nigeria. Key to these programming gaps is the need to strengthen support groups for PLHIV and interventions that address stigma.
THPEE568

FORMATIVE RESEARCH TO DEVELOP HIV SELF-TESTING INTERVENTION AMONG NETWORKS OF MEN IN DAR ES SALAAM, TANZANIA: A MIXED METHODS APPROACH

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Background: HIV testing serves as the gateway to HIV prevention and treatment but remains underused among men in Sub-Saharan Africa. HIV self-testing may reach men who do not use current HIV testing services. The purpose of this mixed methods study was to assess factors associated with HIV self-testing willingness among networks of men in Tanzania and the acceptability of an HIV self-testing intervention.

Methods: Data are from a midpoint survey of a cluster randomized controlled trial consisting of 989 men recruited from networks called “camps” in Dar es Salaam and 24 qualitative follow-up interviews conducted with men who have and have not tested for HIV. Binary logistic regression were performed to examine correlates of willingness to self-test. Participants’ characteristics included socio-demographic, HIV testing history, number of sexual partners, condom use, HIV risk perception, and network influence of two friends in the camp. For the qualitative data, we developed a codebook of a priori and emergent themes.

Results: 51% of the men had not tested for HIV in the past 12 months and 66% of those who had not tested were interested in self-testing. Logistic regression analyses showed that having a close friend in the camp who encouraged HIV testing was the only factor associated with men’s willingness to self-test (OR: 2.07; 95% CI: 1.47 - 2.92). In the qualitative findings, participants provided more information on how their friends encouraged them by engaging in conversations about previous HIV testing experience and advising each other to test. Despite the network influence, participants reported they do not test for HIV for several reasons including lack of confidentiality and privacy. Participants believed that self-testing can overcome these barriers but expressed concerns regarding the lack of post-test counseling associated with self-testing. Recommendations for implementation included a campaign to raise awareness about HIV self-testing and provision of pre-and-post-test counseling via mobile cell phones for men with positive self-test results.

Conclusions: Findings from this study suggest that HIV self-testing is acceptable and interventions need to promote discussion about HIV testing among networks of men. Addressing men’s concerns by offering post-test counseling and assistance with linkage to care is also necessary.

THPEE569

REFERRAL SYSTEM STRENGTHENING IN BOTSWANA: A STRATEGY FOR IMPROVING ACCESS TO CARE

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Background: FHI 360, through the USAID-supported Maatla Project, aimed to strengthen the capacity of civil society organizations (CSOs) to effectively address the HIV and AIDS epidemic in Botswana. Evidence indicates that weak referrals contribute to people defaulting treatment and high TB/HIV co-infection rates. Maatla partners including the Botswana Christian AIDS Intervention Programme (BCAIP), the Botswana Network of People Living with HIV and AIDS (BONEPWA) and Kuru Health, were tasked with complementing the Ministry of Health’s response through community-based activities.

Description: A new two-way referral system linking CSOs and health facilities was implemented to strengthen the referral process within HIV care and treatment. Community workers promoted client retention in treatment through pre-antiretroviral therapy and adherence counseling, and community follow up of those late for treatment or lost to follow-up. Project strategies included: defining roles and referral linkages for each partner, developing district referral directories, developing community maps with referral sites, conducting district referral system workshops to build understanding of roles and working relationships in the referral network, developing referral standard operating procedures and harmonized referral tools, and an analysis framework. The project supported site-level referral network meetings where active referrals were verified with CSOs and Health facilities, allowing for individualized and implementing referrals to be followed up for all networks.

Lessons learned: Strengthened collaboration among partners promoted a greater awareness of available referral services, improved client linkages and quality of care. Site-level referral meetings provided an opportunity to exchange feedback between CSOs and Health facilities, thus resulting in strengthened referral and improved quality of services. USAID SIMS visits revealed improved referral completion rate for individuals testing positive at partner testing sites and registering for care at government health facilities between 2014 and 2015 from 50% to 90%.

Conclusions/Next steps: Strong collaboration between CSOs and health facilities is critical for an effective referral system between the two. Community workers can be effective partners in HIV and AIDS referral systems by offering complementary services to government, and helping to ensure individuals are retained on treatment through peer support and community-based follow up.

THPEE570

USE OF BIOMETRIC MANAGEMENT SYSTEM: KEY TO ENHANCEMENT OF PERFORMANCE OF ANTIRETROVIRAL THERAPY CENTRES IN TAMILNADU, INDIA - A PIONEERING STEP

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Background: Good adherence to antiretroviral (ARV) drugs is key to optimal viral suppression and better treatment outcome. Factors like accessibility, job related huddles, side-effects, sense of well-being, stigma and discrimination determine drug adherence. In order to address this issue and improve programme performance, Tamilnadu State AIDS Control Society piloted Biometric Patient Management System in December 2015 in one center.

Description: 55 treatment units have been setup at government health facilities across 32 districts in Tamilnadu. As a pilot initiative, Biometric system has been implemented at Karur District’s ART Centre. Each patient’s details along with thumbprint were recorded. Patients were contacted over phone to visit centre for registration irrespective of their due date. Proxy registration (by spouse/consanguine relative) was permitted for bedridden/out-station patients with subsequent registry-update of concerned patient after recovery/return.

Lessons learned: In 5 days, all patients enrolled at Karur District’s ART Centre were registered in biometric system with no difficulties. The system found 2 duplicate registrations, lost-to-follow-up, gave benefit of pill-collection from other centers as per patient’s convenience. It also alerted staff on patients who were due but have missed. SMS alerts are sent to patients for CD4 test & pill-collection.

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Transgender</th>
<th>Male Child</th>
<th>Female Child</th>
<th>Total Registration</th>
</tr>
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<tbody>
<tr>
<td>Pre ART</td>
<td>50</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>105</td>
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<tr>
<td>On ART</td>
<td>769</td>
<td>942</td>
<td>2</td>
<td>19</td>
<td>10</td>
<td>1742</td>
</tr>
</tbody>
</table>

[Registration Details]

Conclusions/Next steps: By march 2016, all ART facilities in the State will be linked to biometry & all patients’ information will be available at State. Patients will have convenience of availing service from any Centre in the State, if need arises. All duplications can be segregated and actual HIV burden in the State ascertained.

Proxy registration is beneficial to bed-ridden patients & those on long-distance travel. Defaulters’ number will reduce drastically. These pave way to improvement in drug-adherence leading to sustained viral suppression for longer duration. Opportunistic infection episodes will decline.

1-line failure cases will reduce thereby reducing demand for more costly 2-line drugs. Thus financial burden on the government will be lessened.

THPEE571

ACHIEVING THE FIRST 90 OF THE 90-90-90 TARGET: EFFECT OF HIV TESTING DEDICATED CADRE IN MALAWI

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Background: Malawi adopted the UNAIDS 90-90-90 treatment target towards ending the AIDS epidemic. A major bottleneck impeding achievement of the first 90 (90% of all people living with HIV know their status) is inadequate Human Resources for HIV Testing and Counselling (HTC). The Health Surveillance Assistants (HSAs) in charge of HTC have primary tasks in the communities, hence their contribution to HTC in the facilities is suboptimal.

Abstract Book | www.aids2016.org
Description: To increase access to HIV-diagnosis, the Ministry of Health recommended establishment of a dedicated HIV-testing cadre - HIV Diagnostic Assistants (HDAs) - to be responsible for HTC, viral load testing, and early infant diagnosis. Jhpiego recruited 106 HTC volunteers as HDAs in April 2015, and deployed them to its four focus districts following intensive training. One to four HDAs were deployed to each of 52 facilities, depending on client volume and service delivery points. Monthly HTC data were tracked for a 12-month period (October 2014 - September 2015). Mean HTC uptake was computed for 2 periods: 6 months before and after HDA deployment. Two mean t-test was used to test for difference between the means for the 2 periods.

Lessons learned: A total of 208,067 clients were tested in the one-year period exceeding the annual target (183,172) by 27%. Monthly HTC uptake continuously increased as more HDAs were recruited. There was a statistically significant 20% increase in mean HTC uptake between the pre-HDA (15,755) and since-HDA period (18,923), p<0.041. Although deployment of HDAs increased numbers tested, the HIV positive yield remained the same at 7%.

Conclusions/Next steps: Establishing a dedicated HIV-diagnostic personnel increased the number of people tested and consequently diagnosed, thus increasing Malawi’s potential to achieve the first 90-90-90 target. To increase the positive yield, HDAs will also conduct targeted testing among key populations, through outreach services and moonlight testing in their hubs and hot spots.

THPEE573 PANGAEA GLOBAL AIDS AND THE CLINIC HEALTH ACCESS INITIATIVE (CHAI) BEST PRACTICES CASE STUDY SERIES: THE ACADEMIC MODEL PROVIDING ACCESS TO HEALTHCARE (AMPATH) PERPETUAL HIV COUNSELING AND TESTING (PHCT) PROGRAM

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Background: In partnership with the Kenya Ministry of Health, AMPATH provides HIV care and treatment in eight counties in Western Kenya with a catchment population of 3.5 million people. The Pangaea/CHAI project team visited AMPATH in May 2014 to perform an in-depth review and costing analysis on AMPATH’S Perpetual HIV Counseling and Testing (PHCT) and Find, Link, & Treat, & Retain (FLTR) programs in Kosirai & Bunyala, Kenya. The site visit included meetings with representatives from the Ministry of Health, AMPATH and Moi University Hospital staff, and field visits to interview counselors and clients. The team also reviewed routine PHCT monitoring & evaluation data, and commodity data to better understand resource needs for the program.

Description: AMPATH’S PHCT program is a component of its FLTR model. This program assigns a PHCT counselor to a set location for two years and tasks them to go door-to-door to counsel and test for HIV, link to treatment, perform screenings for diabetes, tuberculosis, blood pressure, treat children for intestinal worms, malaria education and check childhood vaccination records. The PHCT counselors use smart phones to capture individual and household information that is uploaded to the AMPATH Electronic Medical Record Systems.

Lessons learned:

Statistics-at-a-Glance 2013 Kosirai Patient Numbers 2013 Bumpula Patient Numbers

| 2013 Total Catchment Population & HIV Prevalence | 68,000 / HIV Prevalence: >1% | 67,669 / HIV Prevalence: 8.3% |
| Number of Households Reached | 967 | 2,778 |
| Number of Individuals Reached | 3,223 | 11,640 |
| Number of Counselors | 5 | 7 |
| Number of Individuals Tested for HIV | 1,981 (715 New Testers) | 7,102 |
| Number of HIV-Positive Individuals Identified | 32 | 788 |
| % Linked to Care | 56% | 87% |
| Cost per Person Tested | $15.41 | $5.46 |
| Cost per HIV positive Individual Identified | $955 | $50 |

[Statistics-At-A-Glance]

Conclusions/Next steps: AMPATH has implemented an innovative approach of using the home setting as an entry point for the identification and provision of health care needs and services. This model successfully integrates HIV testing and counseling with testing for Non Communicable Diseases, thus increasing the value of the client interaction and ‘normalizing’ HIV testing, care, and support. Another success of this model is that through the use of handheld devices the ability to track real-time progress of individuals’ medical needs and linkage to care is improved.

THPEE574 FAST-TRACK CITIES INITIATIVE TECHNICAL IMPLEMENTATION: USING A FIVE POINT TECHNICAL STRATEGY AS PART OF EFFORTS TO ACHIEVE 90-90-90 AND ZERO DISCRIMINATION

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Background: An increasing number of people live in urban settings with a large proportion of the global HIV burden. Launched on December 1 2014, the Fast Track Cities Initiative (FTCI) involves 61 Cities from all regions and is focused on achieving
the 90-90-90 targets and zero stigma by 2020. FTCI is a global partnership between the International Association of Providers of AIDS Care (IAPAC), Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Human Settlements Programme (UN-Habitat), and the City of Paris, in collaboration with local, national, regional, and international partners and stakeholders. Description: IAPAC has developed a 5 point technical implementation strategy focused on the following areas: process and oversight, program interventions, monitoring and evaluation, communications, and resource mobilization (Figure 1). The strategy serves as the framework for City driven strategies, will be cloud-based as part of the FTCI web portal and dashboards, and will improve through “wiki” contributions from individual Cities as they gain and contribute their implementation experience. The FTCI implementation plan includes a strong monitoring and evaluation component focused on 90-90-90 and other objectives, and includes a global software platform with individual city dashboards that will allow Cities and their citizens to communicate and measure implementation progress. Lessons learned: Having a clear implementation strategy with a limited number of domains has provided a strong framework for the Initiative. While many Cities already have an HIV response plan, the FTCI implementation strategy provides a common language and objectives. Web-based monitoring and evaluation provides a platform to measure global and individual city progress towards 90-90-90 and other objectives. Conclusions/Next steps: FTCI now has 61 Cities and through technical support for the Cities, the Initiative is benchmarking and guiding the HIV response across the network of Cities. Many Cities have already made significant strides toward realizing the FTCI objectives. (Figure 1: FTCI technical implementation plan and objectives)

The Effectiveness of Community Health Extension Workers (CHEWs) in Contributing to the Overall UNAIDS Goal of 90-90-90: A Pilot Project in South-Western Uganda

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Background: Low levels of HCT uptake have predominantly been attributed to structural and service barriers, including limited choices to HIV Counselling and Testing (HCT) approaches. The goal of this pilot is to evaluate the effectiveness of lay Community Health Extension Workers (CHEWs) in accelerating community access to integrated testing for HIV/AIDS, Malaria and Hepatitis B. We report on the HVT results, 3 months into this 6 month pilot.

Methods: Working with the Sheema District Health Office, we identified and provided 13 days of training to a team of 62 lay persons (CHEWS) from 31 parishes of Sheema District, South-Western Uganda in September 2015. Training covered basics of HIV/AIDS, testing using rapid tests, reporting and referral (linkage for the HIV positives) as well as key prevention messages. CHEWS were each provided a $30 monthly stipend; a field testing kit that included: a bag, umbrella, gumboots, bicycle, reporting booklet, HIV testing kits and other appropriate biosafety materials. Supplies were replenished monthly. Home based HCT began October 1, 2015 and still ongoing. Routine HCT is provided at the 8 district health facilities in the area (1 Hospital, 2 health center level IV, and 5 health center level III's).

Results: From October - December 2015, District health facilities in Sheema have tested 3,884 clients with 1,486 (38%) males and 2,398 (62%) females. Of these 217 (9.0%) tested HIV positive and 316 (14.2%) were linked to HIV care services. CHEWS in the same period covering the same area tested a total 23,940 people of whom 11,292 (47%) were males and 12,648 (53%) female. 498 (2.1%) of the people tested by CHEWS were HIV positive and 316 (63.1%) were linked to care.

Conclusions: Findings demonstrate the high utility of CHEWs in accelerating access to integrated testing, including HCT. CHEWs can be a great support to the health care system in Uganda to enhance attainment of UNAIDS goals of testing the majority of the people and link them to care timely at a relatively low cost. CHEWS are able to reach more men and also link most people tested to care than routine HCT at public health facilities.

Using Interpersonal Communication Approaches to Promote EMTCT: Lessons from Uganda

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Background: Most of the recent studies indicate that a considerable number of new HIV infections in sub-Saharan Africa occur within stable relationships. In Uganda HIV prevalence among the married is estimated at 7.4% (UAIS, 2011) of which a significant proportion are sero-discordant and in reproductive age group. This therefore means that more couples are grappling with the challenge of having HIV free babies. Although elimination of mother to child transmission of HIV programs have shown considerable potential, couple HCT uptake for elimination of mother to child transmission of HIV (eMTCT) remains very low. This paper describes undertaken by Communication for Healthy Communities (CHC) a USAID supported project in promoting couple HCT for eMTCT.

Description: In 2015, a campaign promoting eMTCT was launched in western Uganda under the theme; Test, Know Disclose together. CHC used a two pronged approach consisting of interpersonal communication (IPC) for behavioral change. Community champions that included Village Health Teams, media, cultural and religious leaders were trained and equipped with tools to conduct discussions to promote eMTCT. These discussions were supplemented with edutainment activations at community level as they received services.

Lessons learned: Within one month of intense IPC activities in the communities, there was an increase in the uptake of eMTCT services by about 30%. For instance at Kigorobya HCIV couple HCT for eMTCT rose from 48 to 137, Kisita HCIII from 27 to 49 within a month growing steadily over a year compared to previous years. From these interventions it was established that IPC can be effective if the messaging is focused and specific to a particular audience. Secondly, the intensity of the message is critical and that community resources need to provide standardized and accurate information on available services.

Conclusions/Next steps: Based on the positive outcomes of these interventions, there is need to consolidate on the gains while expanding on the reach and scope using region specific data. The capacity of the community resource persons needs to strengthened to monitor and document outcomes but also use data to focus their IPC interventions.

New Heights for Differentiated Care: 3 Years of Community ART Groups in the Mountains of Rural Lesotho

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Background: Lesotho, a mountainous country with approximately 2,171,000 inhabitants, has the third highest HIV prevalence in the world. The Lesotho ART programme suffers from high loss to follow up and treatment scale up has been plagued by chronic understaffing, medicines shortages and patient access challenges. Community ART groups (CAGs) allow stable patients to take turns to collect antiretroviral therapy (ART) for fellow group members who only attend clinics once per year, allowing for VL measurement. We present outcomes from 3 years of CAG implementation in rural Lesotho.

Methods: In this retrospective cohort study, we compare outcomes among CAG members with stable adult patients on ART at 9 clinics in rural Lesotho. Patients eligible to join CAGs were those retained in care after > 6 months on ART with a CD4 above 350 cells/µl. Conclusions: Eligible to join CAGs were those retained in care after > 6 months on ART with a CD4 above 350 cells/µl. Conclusions: Eligible to join CAGs were those retained in care after > 6 months on ART with a CD4 above 350 cells/µl. Conclusions: Eligible to join CAGs were those retained in care after > 6 months on ART with a CD4 above 350 cells/µl.
**Results:** Between September 2012 and September 2015, 888 stable ART patients enrolled in a CAG at the site of interest. There were 2,356 comparable stable ART patients in conventional care during this period. Retention at 12 months for CAG participants was 85% compared to 62% among non-CAG patients. Virolological suppression among those retained in CAGs at 1 year was 79%. Qualitative data show how CAG management reduced the time and money spent by patients, and enhanced adherence, allowing patients to remain on ART. Clinicians working in the study area also reported a workload reduction following CAG introduction.

**Conclusions:** Patients in CAGs had a higher retention in care than patients in conventional care and very good virological suppression. In Lesotho where almost 60% of people live below the poverty line and access to clinics is particularly challenging, CAGs have the potential to remove barriers to access ART and thus facilitate ART scale up in this very constrained healthcare system.

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**Methods:** This was a retrospective cross-sectional study in the inner City of Johannesburg (CiJ). The Mobile Clinic Programme utilised two vans that were dispatched to highly populated areas including Hillbrow, Berea, Braamfontein, Mayfair, Rosettenville, and Newtown in the inner-city. HCT was offered to clients along with other services including tuberculosis (TB), diabetes, hypertension and STI screening and management. Demographic and service utilisation data were routinely collected from clients who visited the mobile clinics between January 2013 and December 2015. Descriptive statistics were calculated.

**Results:** Between January 2013 and December 2015, 4557 clients accessed the mobile clinic within the inner City. Clients were predominantly males (55%) and black (83%). The mean age was 31.2 (±10.3) years old, ranging between 13 and 85. Adolescents (13-19 years) and young adults (18-32 years) represented 63.7% of the study population. Amongst them, 864 (96.3%) opted for FC, 20 (2.2%) for CC and 108 (17.5%) for CAG. The Wits RHI mobile clinics provided a great opportunity to increase HCT uptake, to find first-time testers and to access those populations who do not typically access services at fixed clinics i.e. males, adolescents and young adults. In order to meet the UNAIDS 90-90-90 targets, strategies adopting mobile outreach should be tested and scaled. To ensure continuity of care, linkage to care systems within this service delivery model must be strengthened.

**Conclusions/Next steps:** While preliminary, this pilot study showed that integrating services, using nurses to initiate ART treatment and community health education can improve ART initiation. Partnership with traditional healers is also important in getting men to initiate on treatment.
INPATIENT AND OUTPATIENT SERVICES FOR HIV CARE AND TREATMENT

THPEE583
INTEGRATION OF HIV/TB TESTING AND SCREENING BY VCT COUNSELORS IN URBAN SLUMS IN NAIROBI, KENYA

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Background: Case identification is the first step of bringing HIV and or tuberculosis (TB) infected persons into care. There are high rates of TB/HIV co-infection as such, TB/HIV collaborative activities are essential in decreasing TB burden among people living with HIV (PLHIV). Urban slums dwellers are classified among high risk sub-populations for undetected TB, poor access to health and TB transmission. Kenya national guidelines recommend intensified TB case finding among PLHIV and universal HIV testing among TB cases.

Description: Eastern Deenary AIDS Relief Program (EDARP) provides integrated TB/HIV services in Nairobi and serves 95 urban slum settlements. To address the high demand of TB screening in Nairobi’s urban slums, the program trained 64 voluntary counselling and testing (VCT) counsellors to provide integrated TB screening and HIV testing services. On average 13,034 clients are screened for TB/month; 54% at facility and 46% at community, VCT counsellors refer presumptive TB cases to clinicians for confirmatory tests.

Lessons learned: Between April 2013 and March 2015, a total of 288,820 received HIV testing 38% in VCT, 16% provider initiated testing and counselling (PTC), and 46% community with Positive rate of 3% (8359). Of the 288,820 clients screened for TB, 29,986 were identified as presumptive TB cases. Of these, 5%(1512) were confirmed though genopt, chest x-ray or smears to have TB; 2% at VCT and 13% at PTC. Out of 1512 TB cases, 165(31%) at VCT and 277(28%) at PTC were TB/HIV co-infection. All TB patients were initiated on TB treatment at EDARP facilities. Trained Non clinical VCT counselors carried out TB screening and referred presumptive TB cases to clinicians for confirmatory diagnosis. This strategy enhanced TB screening and treatment acceleration ensuring there were no missed opportunities for TB/HIV treatment and prevention. Integration of TB/HIV screening services using VCT counselors may be embraced to Eliminate TB by 2050.

Conclusions/Next steps: Integrated TB-HIV accelerated screening and treatment could be adopted with minimal additional resources. TB intensive case finding by VCT counselors at clinic and community setting may lead to increased early TB case detection, treatment and improved outcomes.

THPEE584
PRIORITYIZING HIGH YIELD ENTRY POINTS IN MOVE TOWARDS ‘TEST ALL’ IN LOW-RESOURCE SETTINGS: EVIDENCE FROM MANICALAND PROVINCE, ZIMBABWE

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Background: With an estimated adult HIV prevalence of 16.7%, reaching ambitious 90-90-90 targets in Zimbabwe will require strengthening access to HIV testing and counselling (HTC) at all health care entry points as well as ensuring effective linkages to treatment and care for all people diagnosed with HIV. The objective of our assessment was to establish current HIV test yields and documented linkage of HIV positive individuals to treatment and care from different health care entry points.

Methods: We selected 11 health facilities in Makoni and Mutare Districts using a simplified probability proportional to size technique. In October 2015, we conduct-

Conclusions/Next steps: In resource limited communities, identifying current community asset such as funding and local champions who are advocates for HIV prevention and care were crucial in making such conferences a success. While the focus of the conference was to increase clinician HIV knowledge, several attendees expressed interest in implementing what they learned into their own practice. We seek to continue with this momentum and offer additional training assistance to increase provider knowledge and practice change intention.
ed a retrospective cohort analysis, tracing all individuals testing HIV positive from Jan-Mar 2015 through registers to document testing entry point and access to care and treatment services among those testing HIV positive. De-identified data was entered into MSExcel and analysed descriptively using StataV12.

Results: From Jan-Mar 2015, 4,398 individuals were HIV tested at selected sites, 10.6% (n=467) were HIV positive. Entry points with highest test yield were those in which patients were seeking care for other illnesses (TB:30%, OPD ‘other’:32%) and index cases (41%). Linkage rates to pre-ART care were highest in PMTCT (82%) and lowest in OPD for STI treatment (42%).

Process evaluation data indicated variability in documentation of entry point codes by site.

Conclusions: Our assessment demonstrated high HIV test yields and low rates of linkage to pre-ART care in outpatient departments in which patients were seeking care for other illnesses. Expanding ‘test all’ strategies should begin with prioritizing HTC for all and in out-patients with unknown status and index case finding, while strengthening linkages to HIV care and treatment between departments. Enhanced health information systems are required to enable accurate documentation of HIV services provided and patient outcomes within integrated service environments.

THPEE585
HIV CLINICAL BASELINE RESULTS PRIOR TO HIV HEALTH SERVICE DELIVERY INTEGRATION IN A LARGE URBAN HIV CLINIC IN GABORONE, BOTSWANA

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Background: By the end of 2015, Botswana had initiated over 270,000 people on ART using a variety of highly medicalized service delivery models. Looking towards the future, facing the financial realities of growing global economic uncertainty, decreases of diamond revenues and international donor support and critical shortages of health care workers, Botswana must now take action to ensure the long-term sustainability of their HIV Response. To this end, Botswana is improving efficiencies in HIV health system delivery by integrating comprehensive health services into stand alone infectious disease clinics (IDCCs), task shifting clinical care for stable patients to nurses trained in ART prescribing and dispensing, creating express pharmacy stops to decrease monthly pharmacy visits to bimonthly, and improving M&E mechanisms. To determine whether these integration efforts are successful, clinical baseline data was collected and analyzed.

Methods: Beginning in June 2015 through December, patient level data was extracted from a series of random sampling of individual medical records from a total of 19,774 patients initiated after 2002. “Stable” patients were defined as those who were fully suppressed (VL< 400 copies/mL) and on ART for >90 days. Prevalence data on TB, HTN, DM and SRH information were also collected.

Results: Cumulative Deaths (n=19,774): 10%, Cumulative LTFU 14.5%. Active Patients: 33%. Cervical CA screening (n=824): 67.2%. Contraceptive use recorded: 20%. Co-morbidities (n=777): Ever had TB 19.8%, Current HTN 20.2% (25% with BP readings >140/90), Dyslipidemia 5.9%, DM 1.3%. Total stable patients (n=154): 65%.

Conclusions: Baseline data reveal that integration of health care services into IDCCs may greatly improve service delivery quality and clinical outcomes by fast tracking care for stable patients. Triage of stable patients to nurses may decongest IDCCs by 65%, decrease time spent in facilities and optimize adherence. Providing routine SRH services such as contraception and cervical CA screening are currently lacking and would greatly improve quality of care for women. The 35% of patients with co-morbidities would also receive a higher level of care and improved clinical monitoring.

MIGRATION AND MOBILITY AND HIV PROGRAMMING

THPEE586
CONFLICT-AFFECTED DISPLACED PERSONS NEED TO BENEFIT MORE FROM INCLUSION INTO HIV NATIONAL STRATEGIC PLANS AND APPROVED GLOBAL FUND GRANTS WITH AN HIV COMPONENT

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Background: Access to HIV programmes for refugees and internally displaced persons (IDPs) is an equity and human rights issue and a public health priority. We conducted an analysis on HIV National Strategic Plans (NSPs) and Global Fund approved proposals with an HIV component for countries hosting populations ≥10,000 refugees and/or IDPs to document their inclusion in 2014.

Methods: Inclusion criteria were countries with refugee and/or IDP populations of ≥10,000 persons. NSPs were retrieved from primary and secondary sources. Approved Global Fund proposals were obtained from the organisation’s website. Refugee figures were obtained from UNHCR’s database and IDP figures from the Internal Displacement Monitoring Centre. Inclusion of refugees and IDPs in plans and approved proposals was classified into three categories: 1) no reference; 2) reference; and 3) reference with specific activities.

Results: There were 62 countries with ≥10,000 refugees and 47 countries with ≥10,000 IDPs. We analysed 44 NSPs for refugees and 36 NSPs for IDPs; 15 countries had no NSPs and 6 could not be retrieved. Comparing similar data from a 2010 study on African countries, more NSPs referenced/listed activities for refugees and IDPs in 2014 (52% vs 60% and 43% vs 56%, respectively); similarly for approved Global Fund proposals (38% vs 56% and 38 vs 54%, respectively).

Conclusions: There have been improvements in the inclusion of refugees and IDPs in NSPs and approved Global Fund proposals in African countries. However, stronger advocacy at global, regional and country levels needs to occur to ensure displaced populations are systematically included in these plans and proposals. Such integration is essential if we are to reach the 90-90-90 treatment targets and end AIDS as a public health threat by 2030.
**THPREE587**

**TARGETED INTERVENTION FOR MIGRANTS AT DESTINATION: A SUCCESS IN CONTAINING HIV/AIDS EPIDEMIC AMONG MIGRANTS IN INDIA**

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**Background:** Prevalence of HIV amongst Migrants is highest in any group, after High Risk Groups of FSW, MSM and IDUs. Further, importance of migration/mobility in the spread of HIV infection in India is evidenced. Considering this, NACO has revised the destination migrant intervention which focus on high risk migrants (both male & female) unlike the single male migrants covered earlier. Interventions are focused in the towns and cities having high migrant population spread out across the city, engaged in construction works, hotel services, seasonal labourers hired for agricultural work, labourer working in the heavy industries, small and medium enterprises.

**Description:** The revised migrant strategy came into force in 2011. With involvement of labour contractor, peers from the originating states the programme has been designed to focus on outreach in work place of migrants, congregation points and at places where they reside. Migrants are covered through health camps, interpersonal communications by outreach staff, mid media activities, counselling. For impact analysis programme data has been taken for three year from 2012 to 2015 as programme streamlined since 2012. The data has been analysed on major indicator like total migrant population covered across TIs in the states, total STI cases treated, programme streamlined since 2012. The data has been analysed on major indicator like total migrant population covered across TIs in the states, total STI cases treated, and at places where they resides. Migrants are covered through health camps, interpersonal communications by outreach staffs, mid media activities, counselling.

**Lessons learned:** Migrant coverage with HIV services increased from 2.8 million in 2012 to 311 in 2015. HIV testing increased from 0.1 Million to 0.5 million and ART centre increased from 40% to 84% in 2015. STI cases treated has reduced from 9% in 2012 to 6.47% in 2015. HIV positivity decreased from 0.77% to 0.27%. Linking of HIV positive migrants to in 2012 to 311 in 2015. HIV testing increased from 0.1 Million to 0.5 million and ART centre increased from 40% to 84% in 2015. STI cases treated has reduced from 9% in 2012 to 6.47% in 2015. HIV positivity decreased from 0.77% to 0.27%. Linking of HIV positive migrants to

**Conclusions/Next steps:** Initiation of advocacy with the heads of LEAs, the media and state level trainings will foster partnerships for HIV/AIDS prevention and increase access to harm reduction services for PWIDs. Regular stakeholders meetings to ensure support from the stakeholders for PWID programming in Nigeria.

### HIV/AIDS epidemic among migrants in India

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<th>NSPs</th>
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(incorporation of ≤10,000 refugees and/or IDPs in HIV National Strategic Plans and Global Fund approved HIV proposals in Africa, 2010 and 2014)

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**THPREE889**

**DEVELOPMENT AND IMPLEMENTATION OF A GENDER-BASED VIOLENCE CASE MANAGEMENT SYSTEM FOR MULTIPLE USERS AT RAPE CLINICS**

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**Background:** One of the responsibilities of the Foundation for Professional Development (FPD) is the development and implementation of infrastructure at Thuthuzela Care Centres (TCCs) to improve capacity to support the survivors of rape and sexual abuse, and to reduce the risk of secondary victimisation. TCCs are linked to sexual offences courts, which are staffed by prosecutors, social workers, magistrates, NGOs and police.

**Description:** The statistics contained in reports of the TCCs are processed and compiled manually from hardcopy case reports. This is not a sustainable or accurate method for the processing and collation of information as evidence-based statistics, which is why the implementation of an automated information processing and reporting IT solution is required. The objectives and outputs of the project are:

1. To design, develop and implement a data gathering and processing software system for the capturing and processing of Case Information from Case Documentation, pertaining to survivors of rape and sexual abuse and, to reduce the risk of secondary victimisation. TCCs are linked to sexual offences courts, which are staffed by prosecutors, social workers, magistrates, NGOs and police. It is the responsibility of the TCC and its staff to ensure that the Case Information contained in the Case Documentation is valid, accurate and complete. Information pertaining to the survivor as well as the case of rape or sexual abuse is manually captured on a number of forms and serves as supporting evidence for the National Prosecuting Authority (NPA) as well as for reporting purposes to project principles.

**Lessons learned:**

- Automated application controls at input level ensures the completeness, accuracy and validity of Case Information,
- A real-time web-based dashboard displays Information that is easy to interpret, understand and assimilate,
- A standard printable and downloadable document exported.

**Conclusions/Next steps:** The GBV case management system is an action research project, operating in a multi-sectoral, multi-level environment. Case management ranges from rape kits, HIV tests, PEP, medication, emergency medicine, counselling, feeding and clothing. Lessons learnt will be incorporated as the project advances. Initially the system is installed into four TCCs, but it will be rolled out to all 52 TCCs nationally.

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**MULTI-SECTORAL RESPONSES, INCLUDING FOR KEY POPULATIONS**

**THPREE888**

**ENGAGEMENT OF LAW ENFORCEMENT AGENCIES (LEAS) AND CIVIL SOCIETY ORGANIZATIONS (CSO) FOR HIV PREVENTION AMONG PEOPLE WHO INJECT DRUGS (PWID) IN NIGERIA**

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**Background:** The HIV prevalence among PWIDs is 4.2% and they contribute about 9% of the annual new HIV infection in Nigeria. Over the years, efforts made to reach PWIDs with HIV/AIDS prevention, treatment, care and support have recorded minimal results. Some actions of the LEAs, stigma and discrimination drive the activities of this group underground thereby making them difficult to be identified and access HIV services. In order to create an enabling environment and scale-up access of these services among PWIDs, LEAs and CSOs in Nigeria were sensitized and engage to address issues related to PWIDs in the context HIV infection.

**Description:** The National Agency for the Control of AIDS (NACA) in collaboration with the United Nations Office on Drug and Crime (UNODC) held two workshops to Enhance Partnerships between LEAs and CSOs to support HIV Interventions among PWIDs. Participants include LEAs, CSOs, PWIDs and other partners that work with PWIDs. This workshop sensitized the LEAs and CSOs on access to the comprehensive HIV/AIDS services available for PWIDs in Nigeria. The engagement also provided the opportunity for PWIDs to share their experiences and identify areas of collaboration between LEAs and CSOs. Participants were equipped with skills to assume key roles as collaborative partners in HIV prevention and care services for PWIDs.

**Lessons learned:** The workshops provided a better understanding of harm reduction among the LEAs and CSOs thereby changing their mindsets and attitudes toward the PWIDs. LEAs are willing to partner with CSOs to provide enabling environments for access to harm reduction interventions for PWIDs. With adequate knowledge, Law Enforcement officials and Civil Society Organizations can effectively complement each other, share information, identify issues and also prevent HIV.

**Conclusions/Next steps:** Initiation of advocacy with the heads of LEAs, the media and state level trainings will foster partnerships for HIV/AIDS prevention and increase access to harm reduction services for PWIDs. Regular stakeholders meetings to ensure support from the stakeholders for PWID programming in Nigeria.

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**Inclusion of ≤10,000 refugees and/or IDPs in HIV National Strategic Plans and Global Fund approved HIV proposals in Africa, 2010 and 2014**

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Targeted Interventions in Geographic Hotspots

THPEE590
Using Programmatic Mapping to Identify Locations Where People Who Inject Drugs Congregate and to Estimate Their Population Sizes in Three South African Cities

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Background: The criminalisation of drug use and associated stigma results in the “invisibility” of people who inject drugs (PWID) and presents challenges for HIV-related service provision. We aimed to confirm locations where PWID congregate in Cape Town, Durban and Pretoria (South Africa) and to estimate PWID population sizes within selected electoral wards to inform the outreach strategy for South Africa’s first HIV prevention project for PWID.

Methods: PWID and other stakeholders were engaged to select wards to be mapped. Community informants were interviewed to identify locations where drug use and injecting was suspected. Project team members visited locations where injecting was suspected and interviewed PWID about accessibility of sterile injecting equipment and PWID mobility. Location coordinates were also recorded. PWID population size estimates for the mapped wards were developed using wisdom of the crowd estimates from PWID interviews. Estimates were adjusted for movement and compared with the literature and early programmatic data. The Delphi method was used to reach consensus on population sizes.

Results: Forty-five wards were mapped between January and April 2015. In Pretoria, 39 PWID were interviewed at different locations and the PWID population in the 12 mapped wards was estimated between 568 and 1,431. In Durban, 40 PWID were interviewed at different locations, and 184 to 350 PWID were estimated to be accessible in the 15 mapped wards. In Cape Town, 61 PWID were interviewed at different locations and the PWID population in the 12 mapped wards was estimated between 398 and 503. Sterile needles were only seen at one location. Almost all were bought from pharmacies. Between 80% - 86% of PWID frequented more than one location per day. PWID who moved visited a median of 3 locations a day.

Conclusions: PWID can be reached using peer-based methods in locations where PWID services do exist or are nascent. PWID mobility and reported access to injecting equipment in these cities highlights an important HIV prevention need. Outreach programmes should take the mobile nature of PWID populations into account. The population size estimates can be used to service delivery targets and as baseline measures.

THPEE591
Fast Tracking Municipal HIV Responses to Address the Disproportionate Burden of HIV Among Key Populations

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Background: A 2012 epidemiological analysis by UNAIDS indicated that the thirty biggest city epidemics in Eastern and Southern Africa hosted a total of 4.2 million PLHIV - nearly a quarter of the epidemic in the sub-region. A related programmatic review undertaken by UNDP further revealed that most cities lacked appropriate and adequate strategies to reach key population (KP) groups - who due to complex legal, social and economic factors, are at higher risk of HIV infection. This includes men who have sex with men, sex workers, people who use drugs and transgender people. The ‘African Cities and HIV Initiative’ launched by UNDP and partners in 2011 aimed at addressing this critical gap in the African HIV response.

Description: By the end of 2015 the initiative was implemented in more than fourteen cities in Africa, including Lagos, Douala, Kigali, Kampala, Dar es Salam, Luaka and Maputo, to review their responses and develop specific HIV prevention, treatment and care strategies for KPs. The project activities also strengthened the capacity of KP groups including regional KP networks such as the African Men for Sexual Health and Rights (AMSHER) to engage with municipalities. KP groups are directly involved in the planning, implementation and monitoring of the initiative.

Lessons learned: A dashboard has been developed to track the progress of each city using different criteria that look at the situation analysis and data generation, identification of activities, budget allocation, setting specific indicators and ensuring participation of KPs in the cities HIV response. The dashboard showed that despite some progress, several challenges remain, including lack of city level data on KPs, no direct budget allocation for KP interventions, and lack of indicators to measure progress. It is also observed from the dashboard that the challenges differ between different KP groups and different cities.

Conclusions/Next steps: Given Africa’s rapid urbanization rate, HIV will continue to be a crucial public health issue for municipal authorities. Hence, the planning and implementation of municipal HIV responses must ensure that KP-focused interventions are based on detailed analysis and adequate data, include clear operational plans with targets and indicators and make direct resource allocation for KPs.

THPEE592
Meeting the Sexual and Reproductive Health, Including HIV Needs, of South Sudanese Refugees in Gambella, Ethiopia

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Background: Sexual and Reproductive Health services are more often than not perceived as low in the hierarchy of needs during humanitarian crisis yet populations in crisis need and have a right to reproductive health; affected populations at the very least need and must be provided for an enabling environment to access these services whether inform of a minimum package or comprehensive service depending on context of crisis. To meet the sexual health needs of populations in crisis and post crisis, a project has been designed to address gaps in the provision of Minimum Initial Service Package (MISP) implementation for reproductive health.

Description: UNHCR estimates over 190,000 people displaced into Ethiopia during the 2013/2014 South Sudan crisis. While the government opened refugee camps in Gambella region in Ethiopia in 2014, IPPF through its partnership with IMC implemented an SRH emergency response. The response was guided by the five MISP objectives; coordination, prevention of sexual violence, reduction of HIV transmission, prevention of excess maternal and neonatal mortality and morbidity and provision of comprehensive RH services. The project targeted 57,861 [5,413 men, 30,852 women, 21,596 adolescents] and reached 88,869 people. At the end of the first year a post emergency review (PER) was conducted to assess the performance of the project.

Lessons learned: Timely and speedy implementation of MISP at the onset of crisis and sustaining it throughout the crisis is critical as it saves lives. A transitioning plan to ensure continuum of care was needed for this intervention. Availability of RH-friendly services for both young people and adults was another key component to compliment demand created for comprehensive SRH services after crisis. Meaningful engagement and collaboration with partners is important in implementing and sustaining a project of this nature; a multifaceted and multi-sectoral approach effectively addresses the vulnerabilities and needs in crisis settings.

Conclusions/Next steps: On commencement, it is necessary to conduct a rapid assessment to establish the baseline. Provision of HIV services as part of the integrated package was not well covered largely due to stigma attached to the disease and ignorance, a better understanding of the same would have achieved a meaningful intervention.

THPEE593
A Qualitative exploration of Barriers to “Test and Treat” for HIV in Geographically-isolated Fishing Communities of Rakai, Uganda

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Background: The “test and treat” strategy is now recommended for key populations in Uganda, including fishing communities in Rakai south-west Uganda, where adult HIV prevalence is around 4% and incidence estimated at 3.9 per 100 person-years. Delivery of “test and treat” should occur through the Ministry of Health and PERFAR-supported district-led programming whose tenets include structuring HIV care around the traditional formal health facilities. As part of a broader comparative study being undertaken by the ALPHA Network to explore bottlenecks in accessing HIV care services, we aimed to document the HIV care-seeking experiences of patients along the treatment cascade in the context of “test and treat” roll-out.

Methods: Fisher folk were purposively sampled from HIV counselling, ART clinics and Rakai Cohort Study databases. Eighteen in-depth interviews were conducted using semi-structured topic guides iteratively developed and covered individual, community and programmatic factors that influence HIV care-seeking. Using a framework analysis, with a thematic approach we coded and mapped barriers to
accessing HIV services and examined their influence on implementation of ‘test and treat’ in this setting. The study was approved by local and international institutional review boards.

Results: Lack of affordable transport, distance from health services, perceived stigma and reluctance to start ART because of beliefs that ‘treatment’ is for people who are sick, shape the health care seeking behaviour of HIV positive patients. We found that these barriers delay patients’ decision-making in respect of care-seeking, meaning they subsequently reach health facilities when they are ill rather than ‘promptly’, as per the ‘test and treat’ strategy.

Conclusions: Despite introduction of ‘test and treat’, trajectories of HIV care in this setting remain characterised by delays in receiving services due to social-cultural and logistical barriers. Service decentralisation will be essential to reduce distances that patients are expected to travel if ‘test and treat’ strategies are to be successful in this setting.

**THP594: ACCESSING GAY MEN: TRANSITIONING FROM PHYSICAL VENUES TO ONLINE SPACES**

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Background: Gay men and other MSM are increasingly using geolocational mobile applications (such as Grindr) to meet each other, talk and build community. The use of mobile apps is the primary way men meet other men in Sydney, Australia, increasing from 23% in 2011 to 42% in 2014. There is a need to utilise mobile apps to communicate about HIV and other health messages that targets key populations (KP) and ‘goes to them’, accessing them where they are geographically.

Description: ACON’s Peer Education project has successfully trialled an outreach strategy on Grindr, targetting gay men and other MSM in Sydney. This involved creating a profile that invites other Grindr users to “Ask me anything!” It uses a passive approach, waiting for men to message the profile and then provides a response in line with ACON’s health promotion objectives.

This project has been trialled in the geographical hotspot of inner-city Sydney where a high proportion of gay men live. Following a decline in men attending bars and other traditional meeting places.

Lessons learned: ACON runs a program called Sexperts that deploys volunteers in SOPVs to answer questions about HIV and sexual health. This model has been adapted for mobile apps, with questions received online being similar to the sorts of questions being asked in physical venues.

Of those who asked questions about sexual health 38.2% asked about PEP, 29.4% about testing, 25.5% asked about HIV risk while others praised ACON for providing the service or asked about STIs or health related concerns.

However, communicating online brings some additional challenges to peer education. Some respondents asked how they could trust that the profile was legitimate as the profile picture didn’t show a person’s face.

Conclusions/Next steps: Strategies are being explored to increase the number of people who are comfortable discussing HIV with the profile. Volunteer ‘Sexperts’ are being trained to respond to people’s questions through the app, so that they can conduct health promotion from their own homes in their local area, or while travelling. While this initial phase has been trialled on Grindr, this can also be expanded to other geolocational apps relevant to local populations.

**THP595: EFFECTIVELY REACHING FEMALE SEX WORKERS WITH HIV PREVENTION AND TESTING SERVICES THROUGH MOBILE OUTREACH SERVICES IN CAPE TOWN AND DURBAN, SOUTH AFRICA**

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Background: In 2011, an HIV prevention programme for female sex workers (FSWs) in Cape Town and Durban, South Africa began. Tailored peer-based mobile service delivery was used to provide services at sex work locations. The programme used unique participant identification codes (PICs) to protect the identity of FSWs and to enable monitoring. FSWs were asked their HIV status and a rapid HIV test was done on consenting FSWs who did not know their status or who identified as HIV negative. HIV prevention commodities were provided and FSWs who were HIV positive were linked to care. The project aimed to quantify the number of FSWs reached, and understand the burden of HIV and need for linkage to care among FSWs who accessed the programme between July 2012 and June 2015.

Methods: PICs were used to identify FSWs who accessed the programme for the first time. Frequencies and proportions were calculated for HIV status, access to care among those who were reported to be HIV infected, and results from HIV testing.

Results: Overall, 7240 individual FSWs were HIV screened and counted when first accessing services. In Durban, 24.9% (952/3 980) of FSWs reported HIV infection, among whom 75.6% (750/982) were not in care. Eighty five percent (2784/3267) of FSWs consented to HIV testing and 34.3% (989/2784) were HIV infected. In Cape Town, 1.7% (55/3260) of FSWs reported HIV infection, among whom 67.3% (37/55) were not in care. Ninety eight percent (3204/3260) of FSWs consented to HIV testing and 5.7% (183/3204) were HIV infected.

Conclusions: PICs are useful to maintain confidentiality while allowing programme reach to be monitored. The programme reached large numbers of FSWs with HIV testing services in these cities, highlighting the effectiveness of tailored peer-based mobile service delivery. The programme identified a high burden of HIV among FSWs in Durban, confirming the need to include a tailored HIV response for this key population. Over 3/4 of Durban FSWs who were reported to be HIV infected were not in care, underscoring the need for programmes for FSW to include interventions to support linkage to care.

**THP596: WOMEN ECONOMIC EMPOWERMENT: A VEHICLE TO REDUCE HIV VULNERABILITY, ACCESS EDUCATION, NUTRITION AND HEALTH SERVICES FOR WOMEN AND THEIR CHILDREN IN MALAWI: THE MPONELA WOMEN EXPERIENCE**

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Background: Women economic empowerment does not only reduce vulnerability to HIV risks but also promotes rights to education, health and good nutrition. In a country with 65% of the population living in absolute poverty, subsisting on less than $1 per day, and with 61% women living with HIV out of the total adult HIV population according to the Malawi NSP 2011-2016, ILO has targeted women and girls (80% of the beneficiaries) and has introduced an integrated package that combines the provision of HIV and AIDS services, entrepreneurial skills and the establishment of an innovative micro-finance system which is managed by the beneficiaries in collaboration with a locally-identified financial institution.

Description: The program supported about 12,000 women and girls beneficiaries located in 19 associations and cooperatives in the 12 hotspots of the transport corridors in Malawi, with interventions aimed at reducing HIV risk vulnerabilities through economic empowerment initiatives. Mponele women, a group of 150 members were among the targeted group. It comprised of widows, young women, women living with HIV and elderly women taking care of orphans. They were provided with a combination of skills on group formation, entrepreneurship skills, and business mentorship and on HIV risk-reduction strategies.

Lessons learned: Through a 3 year period of the interventions, 70 children were withdrawn from the street and are being supported with their education and food through the proceeds from their businesses, 20 elderly women living with HIV are supported with nutritional supplements, and over 100 businesses were established by women, creating about 3000 jobs, and a community garden has been developed to support the needy with food supplements and income for the group.

Conclusions/Next steps: The concept of economic empowerment model can be adopted by many key players in the sub Saharan region where poverty is one of the key drivers of the epidemic, as it does not only address HIV vulnerabilities but also promotes access to other key services (education and nutrition) that affect the HIV response.
Methods: 113 districts were categorized into 3 risk strata. A stratified random sample of 30 districts was selected. Local district stakeholders identified 3 high risk areas/district such as fishing villages or trading centers. Interviewers asked community informants to identify sites where people meet new sexual partners. A stratified random sample of 100 sites were visited, characterized and mapped. District samples of 600 site staff and patrons were interviewed and tested for HIV onsite using moonlight outreach HTC teams. Testing and referral for treatment followed national guidelines.

Results: 7,587 community informants identified 7688 sites unique across 30 districts. The most common type of informant was a boda-boda cyclist. Most of the sites served alcohol but less than a third had condoms. Almost half reported sex onsite. 18,553 patrons and workers were interviewed and tested. Approximately 12% of young men and women age 15-24 reported having 2+ sex partners in the past 4 weeks. 17% of young women reported exchanging sex for cash in the past 4 weeks. Prevalence varied by district but was higher among women who reported exchanging sex for cash and among women who worked at sites than among the general population (AIS survey). Over 800 respondents who had a positive HIV test reported that they did not know of their infection. Districts discussed their findings with broad group of stakeholders and prepared district level action plans.

HIV PROGRAMMING FOR PEOPLE LIVING WITH DISABILITIES

THPPE598
OVERCOMING COMMUNICATION BARRIERS IN HIV PREVENTION AMONG IN-SCHOOL PEOPLE WITH DISABILITY (PWD) IN EKITI STATE: A CASE OF THE HEARING IMPAIRED AND VISUALLY IMPAIRED POPULATION

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Background: PWD are at significant risk of becoming HIV infected due to so many factors including lack of education, resources to ensure safer sex, risk of violence and rape, stigma and lack of legal protection amongst others. Situation analysis of HIV prevention intervention amongst in-school PWD in the three special schools in Ekiti State showed that 48% of the total population in these schools is hearing impaired, 16% visually impaired and 6% intellectually impaired. To this end, Ekiti State AIDS Control Agency with the funding of the World Bank and in collaboration with some community based organizations carried out a two year intervention programme targeted at reaching the PWD population with HIV prevention services.

Description: Entry phase activities were carried out to relevant stakeholders to ensure community participation, the programme made use of the situation analysis report as baseline for intervention. Peer education Manual (200 copies) and IEC materials (1747) were reproduced in Braille and sign language (1,000 copies of Signing to HIV Prevention), Bill boards with messages that address disability and stigma were produced and erected. Thirty five able teachers (12 males 23 females) with specialization in Braille (10) and sign languages (20) were selected and trained as peer educator trainers (TOT) amongst the special students (hearing and visually impaired), 25 Peer Educators (13 males and 12 females) were selected and trained by the trained teachers to carry out peer education using the Braille and sign language manuals. Anti HIV/AIDS club was formed in the schools and health workers in the school health centers were trained on effective communication with PWDs for HIV/AIDS service provision.

Lessons learned:

Conclusions/Next steps: The use of Braille and Sign language HIV specific materials to communicate with PWD in service delivery improved their understanding and knowledge of HIV/AIDS, HTC uptake and participation in all structural interventions including community dialogues and Anti-HIV club. However, the intellectually impaired, who are highly sexually active and at risk of HIV remain a neglected population due to communication challenge.

COUNTRY INVOLVEMENT IN DESIGN AND IMPLEMENTATION OF PROGRAMMES

THPPE599
NOVEL ORIENTATION PACKAGE FOR NEW GLOBAL FUND TO IGH AIDS, TUBERCULOSIS AND MALARIA COUNTRY COORDINATING MECHANISM (CCM) MEMBERS AND SECRETARIAT STAFF

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Background: The USAID-funded Leadership, Management, and Governance (LMG) Project implemented by Management Sciences for Health (MSH) developed a Global Fund CCM orientation program for Zambia in 2014 and 2015. The orientation program prepares new CCM members and Secretariat staff to fulfill their responsibilities in CCM governance and grant oversight. With support from the Global Fund Secretariat, the LMG Project is building upon this orientation program to develop an orientation package for CCMs worldwide in late 2015 and early 2016. The orientation package combines the best of self-learning and adult-peer-learning techniques to inform new CCM members and Secretariat staff in an engaging way.

Description: The orientation of new CCM members and Secretariat over the first 2-3 months of their terms has five tiers:
1. Under the Mango Tree (2 hours) - basic introduction to CCM and its roles by CCM members
2. Self-Drive Orientation (4 hours) - virtual orientation on Global Fund, CCM, CCM committees, and country grant portfolio across three diseases
3. Face-to-Face Orientation (18 hours) - in-person orientation with other CCM members and Secretariat staff
4. CCM Committee Training (16 hours) - in-person training with other committee members
5. Coaching and Mentoring (16 hours) - ongoing one-on-one support

The learning modules include:
- Global Fund value chain: Country Dialogue, multi-stakeholder involvement, national strategic planning, needs assessment and gap analysis, Concept Note development, grant making, and grant signature
- Global Fund grant considerations: health systems strengthening (HSS), human rights, gender, key populations, and climate change and health
- CCM structures and functions
- Governance principles
- Oversight practices

Lessons learned: The orientation package combines self-learning and adult-peer-learning techniques because new CCM members and Secretariat staff:
- Need a structured approach to orientation without information overload
- Learn in different ways and at different speeds
- Learn more thoroughly with and from peers in “learning in action”
- Need training to understand the technical functions of the CCM committees
- Need ongoing one-on-one support through coaching and mentoring
The LMG Project is developing facilitator guides, participant guides, and evaluation guides.

Conclusions/Next steps: The orientation package will be available in English and French in mid-2016 on the Global Fund website and through digital media. The Global Fund Secretariat will develop a strategy to strongly encourage CCM members to complete the orientation package.

THPEE600 A PARTNERSHIP OF STRENGTHS: A MODEL COLLABORATION BETWEEN GOVERNMENT, NGOs AND THE PLHIV COMMUNITY FOR COMPREHENSIVE CARE AND SUPPORT.

EXPERIENCE FROM THE VIHAAN PROGRAMME IN INDIA

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Background: There are an estimated 2.12 million PLHIV in India (NACO, 2015), of whom 1.17 million are registered with the ART centres across India. These facilities are the primary Government service delivery sites for ART and associated treatment linkages. Complementing the Government HIV programme, the Global Fund-supported Vihaan Care & Support programme, implemented by India HIV/AIDS Alliance and partner, promotes care & support for PLHIV to improve uptake and ef-
ficacy of treatment. A core component of India’s national HIV strategy, Vihaan offers community-based outreach, follow-up, counselling, and referral services for PLHIV to strengthen treatment adherence and increase retention in care, and improve the overall quality of life for PLHIV.

Description: Vihaan was initiated on April 1, 2013. A total of 350 Care & Support Centres (CSCs) have been established, implemented by PLHIV networks (80%) and other civil society organisations (20%). CSCs promote treatment adherence, enhance positive living and create an enabling environment for an effective HIV re-
sponse in India. CSCs are linked to all 520 ART Centres across India and foster PLHIV retention in HIV care, as well as educating, supporting and linking them with other health services and social welfare schemes.

Lessons learned: Effective coordination and active involvement of all stakeholders - including the National AIDS Control Organisation, State AIDS Control Societies, state and district PLHIV networks, NGOs, and Alliance India - throughout the project cycle (planning, implementation and monitoring) has enabled Vihaan to provide effective care and support services to 904,104 PLHIV, representing 77% of the PLHIV registered in the national ART programme. In addition, 146,361 Lost-to-Follow-Up PLHIV have been tracked and returned to ART services, and 306,955 PLHIV have been linked with various social protection schemes, through December 2015.

Conclusions/Next steps: Effective partnership between Government, NGOs and the PLHIV community takes commitment from all. It is imperative that such partnerships are actively supported to bridge existing gaps in care, support and treatment services and complement the important work done by each stakeholder to collectively enhance the national HIV response.

THPEE601 ADVOCATING FOR GOVERNMENT TO INTRODUCE HIV PREVENTION IN SCHOOLS AS A CORE SUBJECT

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Background: With an HIV prevalence rate of 28% among adults, Swaziland leads with the world’s highest HIV rate. Devastatingly, 35-45% of the country’s children are orphans. These are astounding statistics, yet, until recently, no national HIV edu-
cation curricula existed to provide youth with the information needed for them to remain HIV-free. The Bantwana Initiative of World Education (WEI/B) identified this as a critical prevention gap, and, in 2011, began advocacy work with the Ministry of Education & Training (MoET) and UNICEF to formalize HIV education across all secondary school classrooms.

Description: With funding support from UNICEF, WEI/B worked closely with the National Curricula Committee to develop a national Guidance & Counseling Curriculum and WEI/B’s Handbook for levels 1-5, which includes core HIV edu-
cation prevention lessons. The MoET recently endorsed and launched the new Guidance and Counseling curriculum nationally, and WEI/B is rolling out the program in all secondary school classrooms across the country, monitoring impact through a KAP study.

Lessons learned: The establishment of this HIV program on behalf of all secondary school students in Swaziland is a milestone achievement, and a testament to the underestimated role and paramount importance of advocacy, close engagement, and support of key interventions with government ministries. The success in the de-
velopment and launching of this national program underscores the value of strong government partnerships, and the need for a long-term vision for addressing pre-
vention gaps within national frameworks.

Conclusions/Next steps: Whereas in 2011 there was no HIV education in public schools amidst a devastating epidemic, today, WEI/B is supporting the MoET to reach approximately 80,000 young people with key information about how to pre-
vent HIV infection. WEI/B has helped to shift outcomes for a generation of young people by helping the government to bridge a critical prevention gap, bringing critically-needed HIV prevention and life skills education to young people - a cor-
nerstone of the aggressive attempts to curb the disease, and reach 90-90-90 goals.

CROSS-BORDER COLLABORATION (BETWEEN COUNTRIES) TO SCALE UP ACCESS TO HIV TREATMENT AND SERVICES FOR MIGRANTS AND MOBILE POPULATIONS

THPEE602 HIV, MOBILITY AND CROSS BORDER AREA: STRATEGY FOR BETTER ACCESS TO HEALTH AND SERVICES FOR KP AND PLHIV. THE EXAMPLE OF FEVE/SENEGAL PROJECT (BORDERS AND VULNERABILITY)

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Background: The cross borders and mobility areas request specific strategies for an efficient response to HIV. Each country has his strategic plan to fight HIV based in his context and the nature of the epidemic as promoted by UNAIDS « know your epidemic,know your response ». However, the border areas present generally a different context due to the lack of qualified health structures, the important mobility and difficulties to follow up the HIV patients specially key populations (KP) from one country to an other.

The FEVE project ( Borders and vulnerability to HIV) implemented in 8 countries in west Africa by Enda Sante in partnership with the Luxembourg cooperation and SAN access is the only regional project in west Africa targeting KP and PLHIV for a better access to health services.

Description: The cross border activities are implemented between Senegal, Guinee Bissau, Guinee Conakry, Mali and the Gambia from 2011 to 2015. The main interventions undertaken are

• Linking health providers and other actors in a cross border task force
• Elaboration and implementation of a multi language cross border referral tool.
• Elaboration of a directory of the main health centers and services available along the borders.

Conclusions/Next steps: The FEVE project is a relevant experience in managing HIV in the border areas. Its achievements permitted the implementation of new project like KPCF ( key population challenge fund) and initiative like the link of the CNLS (Centre national de lutte contre le Sida et le VIH) for a good quality of services delivered.

Lessons learned: A good strategy is necessary for a better response in cross border areas. Health providers must have a discussion framework to evaluate the actions together and familiarize.

The availability of the map of health structures along the borders and a referral tool facilitate the follow up of HIV patients from one country to another. Capacity building and reinforcement of cross border health structures are needed for a good quality of services delivered.

Conclusions/Next steps: The FEVE project is a relevant experience in managing HIV in the border areas. Its achievements permitted the implementation of new project like KPCF (key population challenge fund) and initiative like the link of the CNLS (Centre national de lutte contre le Sida et le VIH) for a good quality of services delivered.

Lessons learned: A good strategy is necessary for a better response in cross border areas. Health providers must have a discussion framework to evaluate the actions together and familiarize.

The availability of the map of health structures along the borders and a referral tool facilitate the follow up of HIV patients from one country to another. Capacity building and reinforcement of cross border health structures are needed for a good quality of services delivered.
COMMUNITY COORDINATING MECHANISMS

THPEE603
COMMUNITY ENGAGEMENT IN RESEARCH UNEARTH COMMUNITY HEALTH NEEDS

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Background: Biomedical studies require active and rigorous community engagement (CE), especially if it is community based study. Researchers conduct CE to sat- 

size a community about an impending study, seek input from community mem- 

bers on the best methods of conducting a study within their community, obtain acceptance from the community of study, understand socio-cultural aspects of the community that may influence study conduct, and to educate community members on health-related aspects of the proposed study. However, often non-study-specific health-related questions are encountered during CE activities, identifying health care gaps or specific community needs that will not be addressed by the planned research.

Description: Botswana Harvard AIDS Institute (BHP) is collaboratively conducting a community-based study, the Botswana Combination Prevention Project (BCPP), investigating the impact of combination of HIV prevention services in reducing HIV incidence over 36 months in 36-64 year old residents of Botswana. Participants are enrolled from 30 communities throughout Botswana. The BCPP CE team held in- 

troductions meetings with the leadership in each of the 30 communities, followed by a community residents meeting. Community leadership included Kgosi (Chief), headmen, heads of church-based and non-governmental organizations, community development structures (i.e. Village Development Committees) and government departments. Audience comments and questions often included health or devel- 

opment issues outside the scope of the project (i.e. other diseases, drug/alcohol abuse, resources), some of which affect a subset of the community’s population, such as youth.

Lessons learned: As much as BCPP communities have actively embraced BCPP, they have other health-related issues that they prioritize and wish to bring to the atten- 

tion of those in leadership positions whenever the opportunity arises. CE forums, 

such as the meetings held for BCPP, offered them such opportunity.

Conclusions/Next steps: Understanding that communities may have health priori- 

ties beyond scope of BCPP, we established a practice of routine debriefings with key Botswana Ministry of Health personnel after CE campaign. However, when conduct- 

ing CE for HIV-specific study, CE plans should include strategies to effectively re- 

spond to, and/or bring to the attention of relevant authorities, community health needs that are beyond the scope of the research, but for which, the community requires response.

CREATING DEMAND FOR HIV-RELATED CARE AND SERVICES

THPEE604
LESSONS LEARNED FROM LAUNCHING PLEASEPREPMEO.ORG, A CROWD-SOURCED, LOCATION-BASED, SEARCHABLE STATEWIDE CALIFORNIA PREP PROVIDER DIRECTORY TO CONNECT CONSUMERS INTERESTED IN PREP TO PREP-FRIENDLY PROVIDERS

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Background: According to the U.S. Centers of Disease Control and Prevention, one in three primary care doctors and nurses have not heard about pre-exposure pro- 

phylaxis (PrEP). While efforts are underway to train providers and develop policies to increase PrEP access, there is increasing demand by consumers to find PrEP- 

friendly providers.

Description: PleasePREPMe.org, a crowd-sourced, location-based, searchable statewide California PrEP Provider Directory, launched November 2015 connecting consumers interested in PrEP to willing providers. The website was developed in collaboration with regional partners in the San Francisco Bay Area, Los Angeles and San Diego. From the homepage, users enter their location by city or zip code. The website scans the up-to-date directory of 200 clinics mapping the nearest within a customizable mile radius. Consumers can find a provider that fits their sexual health needs. For providers, PleasePREPMe.org offers a portal to promote their services. The website also offers resources to empower consumers and providers to better access PrEP.

Lessons learned: We solicited user input using heuristic reviews and surveys throughout the development process to ensure the website’s look, feel and mes- 

saging were consumer-oriented. In doing so, we invested significant skill, time and resources for building the searchable database and website design to meet consum- 

er desire for a simple search process and information structured in a user-friendly format. To date, more than 6,500 visitors have visited PleasePREPMe.org with more than 17,000 page views. We credit much of the website’s success to this consumer- driven approach.

Separately, willingness from providers to join PleasePREPMe.org depended on PrEP awareness, which varied. Having readily available capacity building assistance tools for providers not aware and/or comfortable prescribing PrEP was helpful. For coun- 
ties with rural populations, low HIV incidence and/or low HIV prevalence, we found partnering with major influencers, like the State Office of AIDS, along with targeted outreach was key in our recruitment efforts.

Conclusions/Next steps: PleasePREPMe.org fills the demand of consumers seeking a willing PrEP provider and supports providers to become more PrEP-friendly. It is our intent to expand PleasePREPMe.org into a multi-state or national effort. As PrEP uptake continues to increase, our lessons learned may be useful to others develop- 

ing PrEP provider directories.

THPEE605
COMMUNITY MOBILIZATION AS KEY TO THE SCALE UP OF VIRAL LOAD MONITORING IN RESOURCE-LIMITED SETTINGS: LESSONS FROM UGANDA

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Background: Viral load (VL) testing is increasingly recognized as an important tool for the management of ART in resource-limited settings. However, VL testing has been cost-prohibitive, lacking community demand in many countries, and not wide- 

ly understood or discussed.

Description: Civil society (CS) in Uganda, led by HEPS, mobilized to improve access to VL monitoring. The campaign for prioritization and scale-up of VL testing engaged CSOs and constituencies of people living with HIV (PLHIV), the Ministry of Health and development partners such as PEPFAR. Advocates also conducted a baseline survey of VL monitoring services in four regions of Uganda, capacity building work- 

shops with over 30 CS organizations and others including health journalists, radio and TV talk shows and print media.

Lessons learned: The survey found that out of the 56 public facilities visited, only five, and a handful of private facilities, offered VL services. It also found low levels of awareness of the importance of VL, confusion about the difference between CD4 count and VL and sporadic ARV stock outs in most facilities.

Largely as a result of HEPS’ survey and community engagement, CS was able to inform and shape the VL rollout process supported by Uganda’s HIV/AIDS National Priority Action Plan 2015-2018 and funded by PEPFAR. Specifically, HEPS raised awareness empowering PLHIV to increase demand for and uptake of VL services, helped foster robust community systems that follow up and support people with a high VL; used mass media to communicate the delicate shift from CD4 count as a monitoring tool to VL; ensured that the ART program works in harmony with the VL program and called for and enabled a stable and sustained supply of ARVs to achieve viral suppression.

Conclusions/Next steps: Universal access to VL monitoring is feasible however ex- 

perience from HEPS’ VL advocacy project shows that it is important to involve CS 

and PLHIV for successful rollout of the program. The project is currently identifying and recruiting community champions to monitor the rollout of the program guided by a VL quality checklist.
COMMUNITY-LED PROGRAMMES AND ORGANIZATIONS, INCLUDING FOR KEY POPULATIONS

THPEE606
ASSESSMENT OF PEER-LED, COMMUNITY-BASED-ORGANIZATIONS PROMOTING SAFE SEX AND EMPOWERMENT AMONG STREET SEX WORKERS IN VIETNAM

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Background: In Vietnam, prevalence of HIV is estimated at 0.3% among the general population, but at 16% to 23% among street-based sex workers (SWs) in some provinces. Sex work in Vietnam is illegal and sex workers are vulnerable to stigma, social exclusion, violence, harassment and detention.

Description: This paper examines the experiences of Vietnamese sex workers who participated in peer-led sex workers’ community-based organizations (CBOs). Sex workers’ CBOs were implemented by the Vietnamese NGO Supporting Community Development Initiative (SCDI) using a harm reduction intervention model designed and implemented within the framework of the Bridging the Gap program (Aidsfonds, Netherlands). The objective of the study is to assess the effectiveness of SWs’ participation in the CBO organization. The study uses a participatory qualitative research method. Nine focus group discussions and 20 individual in-depth interviews were conducted between October 2014 and February 2015, reaching a total of 107 sex workers-CBO members (85 women and 22 men).

Lessons learned: The CBO was assessed very positively by study participants who felt the CBO yielded positive results with respect to the adoption of safe sex practices, including regular condom use and health testing, and, therefore, reduced sexual health risks. Participation in a CBO promoted feelings of empowerment, which enhanced the ability to negotiate safe sex with clients and to contest abusive and violent client or police behavior.

Conclusions/Next steps: We discuss the implications of our findings for planning a national intervention program that would maximize benefits for sex workers, clients and the general population.

THPEE607
“NOTHING FOR US WITHOUT US”: SCALING ACCESS TO SERVICES THROUGH COMMUNITY INVOLVEMENT IN RUNNING OF PROGRAMS: A REVIEW OF THE SEX WORKERS LEARNING SITE IN MOMBASA, KENYA

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Background: Sex Workers (SWs) are particularly vulnerable to HIV and STIs. The vulnerabilities faced by SWs relate not only to their individual risk behaviors but also to broader societal and community factors. National AIDS Control Council (NACC) and National AIDS and STI Control Programme (NASCOP) has prioritised SWs in the Kenya AIDS Strategic Framework (2014-2019) and has recommended a combination prevention strategy to scale up interventions. In 2013, NASCOP selected Mombasa to establish a model program to serve as demonstration site for building and disseminating knowledge about efficient and effective comprehensive programming with key populations. The outreach component was spearheaded by SWs.

Description: Mombasa County has an estimated number of 9,289 Female Sex Workers (FSW) and 682 Male Sex Workers (MSW) who operate mostly in venues. Through consultation with the SW community, it was agreed that the Learning Site (LS) would target SWs in two locations whose estimated number of FSW was 5,809 and MSW 600. The main objective of the LS was to implement a comprehensive SWs model program which focuses on reducing HIV transmission among SW by strengthening behavioral and structural interventions.

Lessons learned: At the end of the period July 2015, a total of 6,698 FSW and 1000 MSW were enrolled through the outreach program. Out of those enrolled, 60% of the FSW and 95% of the MSW were also enrolled at the clinic. SWs who reported consistent condom use increased from 84% to 92% and 49% to 52% for FSW and MSW respectively during the period 2014 to 2015.

Access to HIV testing and Counselling also increased from 62% to 89% for FSW and 71% to 74% from the period 2014 to 2015 with 92% of those positive enrolled into a HIV care and treatment program.

Conclusions/Next steps: The project is a community owned comprehensive project. SWs are in the centre of the project and are part of the decision making. Services are comprehensive and have expanded over time addressing the needs of the community such as flexi opening hours. Overall the project shows that even in a short period of time a community owned comprehensive programme can result in positive outcomes.

THPEE608
CURRENT SITUATION AND CHALLENGES FOR NON-PROFIT ORGANIZATIONS INVOLVING IN HIV/AIDS RESPONSE IN CHINA

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Background: To analysis current situation for non-profit organization (NPO) participating in fighting HIV/AIDS in China, and to inform policy making in term of CBO’s involvement in future HIV response in China.

Methods: We employed a mixed method including policy and literature review, cross-sectional questionnaire survey across 29 provinces, as well qualitative interview of the key informants. A total of more than 700 organizations enrolled in the survey. The institutional information and profile, services delivery over last 5 years, staffing and capacity and future development plan and challenges ahead et.al were collected and analyzed.

Results: In total, there were more than 1000 NPOs supported by international cooperation programs, such as the Global Fund and Gates Foundation in 2013, and more than 700 projects are supported by China AIDS Fund for NPOs, which is fund by Chinese central government, in 2015. Among them, more than 80 percent of surveyed NPOs are unregistered(without obtaining legal status in China). Staff member varied from 0 to 42 full-time staffs per organization and less than two persons on average. Around 60 percent of NPOs had leased office venue and more than 90 percent secure financial support from international organizations over the past two years. The NPOs fulfilled their role in targeted intervention, care and support for people living with HIV/AIDS, capacity building, and even participating in operational researches, etc. As a matter of fact, NPOs’ participation in combating HIV arena was irreplaceable partnership, however, they still faced outstanding barriers and challenges for participation. Legal status obtained from Civil Affairs Department was one of most significant. The remaining challenges like financial support and capacity building only took time.

Conclusions: Registration certification, financial support and capacity building are needed to ensure NPOs’ effective participating in fighting HIV/AIDS. Government at each level may use contracted service from NPOs and project-based management to ensure sustainable financial support to NPOs in terms of channeling their effort and monitoring performance efficiently.

THPEE609
THE ISAN-HIVOS EXPERIENCE: STRENGTHENING CAPACITIES OF COMMUNITY-BASED ORGANIZATIONS (CBOS) THROUGH ORGANIZATIONAL DEVELOPMENT (OD) APPROACH FOR SUSTAINABILITY OF COMMUNITY-LED HIV, SOQUE AND RIGHTS-BASED INTERVENTIONS IN THE PHILIPPINES

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Background: The ISEAN-Hivos Program (IHP) is a regional Global Fund AIDS grant focused on community systems strengthening (CSS) among males having sex with males (MSM) and transgender (TG) organizations in Indonesia, Malaysia, Philippines and Timor Leste. The program in the Philippines is implemented by the Philippine NGO Council on Population, Health and Welfare, Inc since October 2011, providing various OD-focused capacity building trainings/mentoring to more than 40 MSM/ TG CBOs. This includes program/financial management, monitoring/evaluation, research/documentation, leadership/governance, strategic planning, advocacy/networking, resource mobilization and proposal writing, among others.

Description: The capacity building series has contributed to strengthening the CBOs’ organizational systems/procedures. This is more evident for more than 20 CBOs whose proposals on innovative HIV, SOQUE and rights-based interventions for MSM and TGs were granted by IHP through small fund grants ranging from Php
to reflect these qualities and capabilities in their purchasing specifications. Likewise, organisations has historically lacked clear expression. This can result in funders failing action of funding proposals. The value generated by HIV community-controlled or pact was achieved.

The essential, inherent nature of these qualities creates challenges for their full response. This provides for ‘community knowing’ that is trusted by and responsive to communities in the creation of effective HIV prevention and education programs. In Australian HIV community organisations, these qualities are historically through democratic, open governance processes, as well as connectedness and accountability to and existence within gay communities. The participation of gay men, including those with HIV, is evident at all levels of the community HIV prevention services, and undergone HCT. Both have contributed to more than 50% of the total number of people who have undergone HCT in Metro Manila and Metro Cebu, respectively. This has also translated into sustainable partnerships with their local government units and private foundations.

Conclusions/Next steps: Given this model, such OD-approach on capacity building for CBOs should continuously be monitored, evaluated, and foster linkage with local government partners and/or private institutions. This kind of CSS intervention has a long-term perspective because it is geared towards the sustainable development of the CBOs to continuously advocate and implement community-led HIV, SOGIE and rights-based interventions in the Philippines.

Methods: Australia’s community-controlled AIDS Councils and their national peak, the Australian Federation of AIDS Organisations (AFAO), commissioned research to demonstrate how community-controlled HIV organisations create, deliver and cap- ture value and to analyse the costs of community-controlled HIV programs relative to other providers. The analysis was informed by financial and activity data and case studies contributed by Australian AIDS Councils and AFAO.

Results: Community-controlled HIV organisations have unique and valuable capaci- ties and qualities that distinguish them from other potential providers of HIV pro- grams. The Australian HIV community organisations, these qualities are historically derived, deeply embedded and continuously reproduced. They include community control through democratic, open governance processes, as well as connectedness and accountability to and existence within gay communities. The participation of gay men, including those with HIV, is evident at all levels of the community HIV response. This provides for ‘community knowing’ that is trusted by and responsive to communities in the creation of effective HIV prevention and education programs. The essential, inherent nature of these qualities creates challenges for their full articulation and valuing in government procurement processes. In this analysis, community-controlled HIV programs - specifically, peer-led HIV and STI testing and community-level education programs - were delivered more cost-effectively when these qualities were included and costed, and greater target group reach and im- pact was achieved.

Conclusions: Governments and other program funders are increasingly seeking the best value for their investments in HIV and other programs through stringent evalu- ation of funding proposals. The value generated by HIV community-controlled or- ganisations has historically lacked clear expression. This can result in funders failing to reflect these qualities and capabilities in their purchasing specifications. Likewise, community-controlled HIV organisations must better describe and cost this value in their representations and proposals to funders.
outcome, while 6 (6.6%) people’s immigration hearing dates are still pending. The outcome of 3 (3.3%) of the participants were unknown.

Lessons learned: The vast majority of participants found the training helpful with relevant and important information on how to access legal support and navigate the immigration system. They credited the training with assisting them in making relevant and important decisions on their legal options on which immigration application stream to apply, how to prepare relevant supporting documentation for their application; and how to work effectively with their legal service providers. It also reduced fear of the unknown and gave the people confidence and tools to advocate for themselves.

In addition, the training enabled participant’s knowledge on the eligibility criteria in various health and social services along the immigration refugee status continuum. The co-learning environment also enabled direct contact and promoted connection between IR-PLHIV and service providers.

Conclusions/Next steps: Knowledge and skills in navigating the immigration system has direct impact on the access to legal status and access to health care coverage, treatment and support services for all newcomer PLHIV. Countries and regions with migrant PLHIV would benefit from similar training to improve immigration system literacy to ensure the health and well being of IR-PLHIV.

THPEE613
IMPROVING PROGRAM QUALITY FOR HIV PREVENTION AMONG MEN WHO HAVE SEX WITH MAINNSM IN CHALLENGING AND HOSTILE ENVIRONMENTS: PEER EDUCATOR PERSPECTIVES FROM KARACHI, PAKISTAN
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Background: Peer-education for HIV prevention increases HIV related knowledge and safer sex practices, however, peer-led HIV prevention, especially among MSMs, in hostile environments such as Pakistan is challenging and has implications for program quality and outputs.

Description: Parwan Male Health Society (PMHS) provides voluntary counseling and testing (VCT) for HIV, referral for HIV management, and provision of condoms/ lubricant to MSMs through peer educators and a service delivery center in Karachi, Pakistan. These field workers face particular challenges which exact a toll on their physical, mental and social well-being and affect overall program quality. To understand these challenges and improve program outreach quality and efficiency, written and verbal peer educator field reports were subjected to manual qualitative analysis.

Key challenges that were reported included harassment by police, local politically affiliated gangs and clients who mistake peer educators for commercial sex workers. Instances of rape by the police were also described. Peer educators reported emotional stress brought on by concealing the nature of their job from their families and wives, and break-ups due to suspicions regarding their HIV status resulting from negotiating condom use with their partners. In order to meet the pressure of program targets, they often had to pay for transport and refreshment while engaging with clients in local cafes. They are suspected of being foreign agents, trying to promote homosexuality, and spread HIV under the guise of HIV testing. They also reported deficiencies in their knowledge and skills for behavior change communication.

Lessons learned: PMHS needs to liaise with security agencies to ensure the safety of peer educators, position its peer educators as government endorsed lay health workers and provide them with regular psychosocial counseling. Improvements in health education skills and increased financial support for field work are also needed to improve program efficiency.

Conclusions/Next steps: Programs in challenging and hostile environments need stronger collaboration with the state, especially with the police and with state-owned lay health worker programs. Funding agencies need to take into account financial pressures on peer educators and increase investment in capacity building for behavior change communication skills around HIV prevention in MSMs.

THPEE614
EVALUATION OF THE WARD DOOR TO DOOR AIDS PROGRAM IN GAUTENG PROVINCE
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Background: The Ward door to door AIDS program reaches 8 million people (cumulative) with education through 4 million household visits (cumulative) with a quarter of a million referrals per year. It is implemented in over 70% of Wards (local area of government) by five Municipalities, prioritizing HIV prevention in informal settlements and other high risk settings. Ward educators provide peer education on safe sex, motivate HIV testing, make referrals and follow up TB and ART defaulters. Mobile health, social and poverty relief services are taken to high risk wards. A service guideline and monitoring system are in place.

Methods: The program evaluation was tendered by the secretariat of the Gauteng AIDS Council. Methods include a survey of 2 100 beneficiaries (a stratified random sample), focus groups of 50 implementers and interviews with 30 stakeholders across five Municipalities. The questionnaire addresses key indicators from the logistic framework for HIV prevention.

Results: The program achieves high coverage of informal settlements and townships and includes taverns and sex workers.

The pilot of 10% of beneficiaries shows very high preference for and influence of ward educators at 90%. 97% liked the interactive nature of the education and over 75% of educators met the minimum standards for the educational method. 56% reported regular condom use (all partners) and 21% reported sex without condoms. 38% were referred, 89% of those referred followed through and 82% of referrals were followed up by ward educators. Referrals are made for the following services: social grants, poverty relief, social services, orphans and vulnerable children, housing and health care.

The program supports expansion of the Ntirhisano Service Delivery War Rooms on the Operation Sukhuma Sakhe model from Kwazulu Natal.

Conclusions:
- The program achieves high coverage of the higher risk areas in the province.
- High coverage and quality education is necessary to achieve positive outcomes.
- Good local management of community workers is essential for their effectiveness.
- The monitoring and reporting system includes random back checks to verify reports plus observation of the quality of the service.
- Periodic evaluation is required to ensure the program achieves its objectives.

HIV SERVICE DELIVERY IN CONFLICT AND POST-CONFLICT SETTINGS
THPEE615
ACCESS TO HIV TREATMENT AND CARE FOR SYRIAN REFUGEES IN LEBANON
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Background: Lebanon has experienced an unprecedented influx of nearly 1.1 million Syrian refugees since the onset of the Syrian crisis. Refugees are scattered throughout Lebanon, living mainly in urban settings. 70% are living below the poverty line and rely on aid to meet their basic needs including access to healthcare, however, refugees often face stigma and discrimination due to their status as refugees and a common misconception that the prevalence of HIV is higher than in the host community. Both Lebanon and Syria are countries of low HIV prevalence. UNHCR sought to ensure access to comprehensive treatment and care for refugees whilst protecting their rights.

Description: Early in the crisis, UNHCR engaged with the National AIDS Programme (NAP) of Lebanon and civil society to ensure integration of Syrian refugees within the existing HIV programme. This included confidential access to VCT services, PMTCT and ART treatment provided free of charge by the NAP. However, UNHCR and partners are required to support physician consultation fees, laboratory investigations and hospitalisation costs when indicated, which are not covered by the NAP. To date, approximately 20 Syrian refugees registered with UNHCR are receiving ART with effective follow-up.

Lessons learned: Integration of Syrian refugees within the NAP in Lebanon has been problematic through early constructive dialogue. However, HIV services are fragmented in this complex, mostly privatised and costly health system. Thus, additional support has been required to ensure access to comprehensive services.

Conclusions/Next steps: Lebanon adopted an early position of integration of refugees within the existing national HIV programme that has reduced the risk of further stigmatisation. This benefited refugees and was an important public health measure to reduce transmission of HIV in Lebanon. It is important to sustain this approach through ongoing advocacy to maintain non-discriminatory laws, policies and strategies related to HIV that are inclusive of refugees. In addition, the package of HIV prevention, treatment, care and support services should be further integrated and adequately funded to ensure access to an efficient and effective programme beyond VCT, PMTCT and ART.
THPEE617
PMTCT ACTIVITIES IN HARD-TO-REACH AREAS WITH SECURITY CHALLENGES: A CASE STUDY FROM ZAMFARA STATE, NIGERIA

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Background: The Global Fund supports PMTCT services in five Primary Health Centres (PHCs) and one Secondary Health Center (SHC) in Maru Local Government Area (LGA), Zamfara state, Nigeria with the aim of increasing uptake and quality of PMTCT services to support HIV-positive pregnant women and mothers, and to reduce mother-to-child transmission of HIV (MTCT).

Methods: In addition to poor quality, stigma, and other cultural factors that deter women from accessing PMTCT services, two of the focal PHCs—Dangubuili and Damburki—have faced serious security challenges, including armed bandit raids and sexual violence perpetrated against providers. In order to overcome these challenges and to simultaneously improve the quality of services for increased utilization of PMTCT services, we developed a case study synthesizing lessons learned, and the model used to mitigate risk. The model comprised: sensitization visits to community leaders for increased vigilance against perpetrators; use of community leaders’ residences as alternative ‘ANC centers’ for the first visit; organization of community policing; state deployment of troops and repair of roads for easier and safer access to PHCs; and utilizing male peer educators to encourage partners of HIV-positive women to support and accompany them to ANC.

Lessons learned: Through community involvement and mapping, identifying and addressing sociocultural factors influencing access to PMTCT at focal PHCs, and using the ‘security model,’ significantly higher numbers of HIV-positive pregnant women accessed PMTCT services.

Conclusions/Next steps: This model could be used by other implementers to increase uptake of PMTCT services by overcoming cultural and other serious barriers, including increasing security challenges prevalent in Nigeria and other countries.

THPEE618
ESTIMATES OF THE GLOBAL HIV BURDEN AND THE TREATMENT GAP IN EMERGENCIES

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Background: Ambitious global targets for HIV testing and treatment require concerted efforts to reach marginalised persons living in challenging environments. Emergencies often disrupt existing health and HIV services, creating circumstances that may cause interruption of HIV prevention, treatment and care programmes. The objective of this study was to quantify the proportion of PLHIV who were affected by emergencies in 2013 and the treatment gap.

Methods: Emergencies were defined as conflict, natural disaster and/or displacement. Country estimates for 2013 were based on eight public databases (EMDAT, Reliefweb, IPI-db, HIK, UNHCR, UNRWA, CE-DAT and CAP). We compiled a single database with differences among databases providing low and high estimates. Estimates were calculated based on aggregated low/high numbers multiplied against UNAIDS 2013 national prevalence and treatment coverage rates. Global population data were used to establish the proportion between 15-49 years and to calculate PLHIV numbers. Pregnant women were calculated using UNAIDS 2014 estimates.

Results: 314 million (295 million-333 million) people were affected by emergencies in 127 countries representing 4.3% of global population; 67 million (61 million-73 million; 21%) were displaced. Floods (75 countries), conflicts (57), and storms (36) were the most common types of emergencies. 1.7 million (1.4 million-2.1 million) PLHIV were affected by emergencies translating into 1 of 19 PLHIV (1 in 16 to 1 in 23); 174,000 (148,000 - 200,000) were children (0-14 years); 81,000 (77,000-85,000) were pregnant women, and 193,000 (169,000 - 217,000) were adolescents (10-19 years). 1.4 million (1.3 million-1.6 million) of 1.7 million PLHIV (82%) affected by emergencies lived in Sub-Saharan Africa. Globally, 1.3 million (934,000-1.4 million) PLHIV in emergencies did not have ART access.

Conclusions: Although these estimates are not static due to large variations of numbers and types of emergencies, hundreds of millions of people are affected by emergencies annually, and a significant proportion of these are PLHIV. As HIV testing, prevention and treatment is scaled-up, emergency-affected populations, often the most vulnerable, cannot be neglected. Flexible programmes and donors that can adapt to and respond to shocks are critical to ensure PLHIV affected by emergencies are not left behind and ambitious global targets are reached.

THPEE619
HIV SERVICES AND RISK IN AN EMERGENCY RESPONSE IN MALAWI

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Background: In January 2015 Malawi experienced devastating flooding, displacing 230,000 people. In the three most flood-affected districts, an estimated 52,137 people living with HIV were in need of ART, including 9,215 pregnant women and 842 children. Ensuring continued access to HIV services and reducing risk of HIV transmission required a coordinated, integrated response.

Description: Ensuring continuation on ART was the first priority. All health facilities in flood-affected districts had adequate stock of ARTs due to purposeful distribution prior to the rainy season. In most districts, treatment continuation rates showed little change during the emergency response period, however, in the district with the heaviest flooding, the percentage of PMTCT defaulters increased by 10%–from 24% to 34%. Data from the three most affected districts from the first quarter of 2015 showed similar uptake of ART during the response period as compared to non-emergency periods. ART initiation decreased, though not a marked decline. During the response, integrated services offered by mobile clinics improved the efficiency and effectiveness of services, and created opportunities for synergies, such as screening malnourished children for HIV. Between January - June 2015, 77% of 797 children admitted to nutrition rehabilitation units in the 3 most affected districts were tested for HIV, 26% (n=151) tested positive and 61% (n=92) were initiated on ART.

A post-disaster assessment of 192 adolescents (10-19 years) indicated high rates of sexual exploitation and transactional sex, particularly among girls, during the emergency response period, including in exchange for relief items.

Lessons learned:
- Proactive planning and flexible delivery ensured continued access to HIV services.
- Sufficient stocks of ARTs in facilities is not enough; additional efforts are required to support HIV-positive displaced persons to stay on treatment.
- Scaling integrated services creates opportunities for better health outcomes.
- An emergency situation can increase vulnerability and put some key populations at increased risk of HIV.

Conclusions/Next steps: In 2016 Malawi has seen widespread drought and food insecurity; an estimated 28 million people require food assistance. Drawing upon the lessons learned, it is critical to implement multi-sectoral interventions based on integrated approaches that also consider the increased vulnerability of adolescent girls.

ADAPTING HIV PROGRAMMES TO SYSTEMS WITH LIMITED HEALTH CARE PERSONNEL

THPEE620
THE EFFECT OF POINT-OF-CARE CD4 ANALYSIS, PILOTED IN AMAJUBA DISTRICT SOUTH AFRICA, ON THE MANAGEMENT OF CLIENTS BEING INITIATED ON ANTIRETROVIRAL THERAPY BY NINART PRACITIONERS

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Background: The launch of the recent 90-90-90 targets for HIV testing, initiation of ART and achieving viral suppression in HIV positive clients prompted the need to explore new ways to optimize ART provision. CD4 analyzers were introduced in Amajuba District as a pilot project to determine whether access to ART could be accelerated without compromising quality of care. The effect of point of care CD4 count testing on ART initiation was assessed in a rural primary care clinic in KwaZulu-Natal.

Description: A retrospective chart review was undertaken between November-December 2014 and November-December 2015 to compare numbers of eligible patients initiated on ART prior to the introduction of the POCD4 analyzer. The duration from enrollment into HIV care to initiation of ART therapy was measured and the initiation of isoniazid and Cotrimoxazole prophylaxis to prevent opportunistic infections was also evaluated.
Lessons learned: After the introduction of POC CD4 tests, the number of clients eligible for ART increased from 26 to 55-51 of 78 CD4 < 200cells/mm³. Twenty two of the 51 eligible clients enrolled received Cotrimoxazole prophylaxis (CD4 < 200 and clinically stage 1), on the same day and initiated on ART within 5 days. The average number of clients initiated on ART per week increased from 13 in 2014 to 28 in 2015. The screening of clients for TB also improved. Twenty seven of 78 clients were enrolled on the preART and wellness programme and were initiated on Isoniazid therapy. POC CD4 used with the active tracing of patients follow up blood results resulted in a reduction in the number of clinic visits for a client in the run up to ART initiation from 10 days to 3-5 days.

Conclusions/Next steps: POC CD4 analysis enabled NIMART nurses to better manage accessing HIV services. This technology used in conjunction with active tracing of baseline results reduced the average time to initiating patients on ART. The introduction of POC also improved the nurses independence in the management of HIV positive clients. POC technology has the potential of accelerating management of clients without compromising quality of care.

THPEE621 SIMPLIFYING DATA MANAGEMENT FOR HOUSEHOLD-LEVEL COMBINATION PREVENTION RESEARCH IN RESOURCE-LIMITED SETTINGS WITH REUSABLE OPEN-SOURCE SOFTWARE: DEVELOPING AND DEPLOYING AN ELECTRONIC RESEARCH DATA SYSTEM FOR THE BOTSWANA COMBINATION PREVENTION PROJECT

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Background: The Botswana Combination Prevention Project (BCPP) is ongoing in remote resource-limited locations in Botswana where ~25% of adult residents are HIV-infected. BCPP will allow for impact quantification of multiple programmatic interventions on HIV incidence. A baseline household survey (BHS) was conducted using a novel electronic research data system (EDC) in ~20% of households from 30 communities lacking reliable power or internet by two teams of 16-18 research assistants (RAs) with limited supervision. The EDC simplified household location, enumeration, management, subject eligibility determination, consent verification, enrollment, and questionnaire completion. RAs were guided through each step of the household survey by the EDC to securely gather research-grade human subjects data, conduct HIV testing and counseling, and collect specimens at point-of-contact while maintaining protocol and regulatory compliance.

Description: Using the EDC, RAs located 11,582 households, targeted from satellite images, where 10,306 were regularly occupied and 7,766 enumerated. Of 28,174 residents enumerated, 15,475 were potentially eligible and 12,610 enrolled. The EDC validated responses and employed adaptive data-entry in real-time by reference data-types, allowable ranges, participant criteria, previous responses, and protocol and regulatory requirements. Community-based staff accessed data within 4 hours of collection for specimen processing, consent verification, and operational planning. Centrally- and internationally-based project leaders, laboratory and data staff accessed and analyzed combined data from all communities within 1-3 days of collection.

Lessons learned: Developed by the Botswana-Harvard AIDS Institute Partnership (BHP), the EDC is a suite of open-sourced python modules adding clinical, laboratory, regulatory and survey research functionality to the Django framework. BHP local software development was responsible for design, development and deployment resulting in solutions best suited for the local setting. Developers worked closely with research staff and followed a test-driven approach, included user-acceptance testing, maintained version control, and scripted deployments. In response to user issues and protocol changes, developers supported and upgraded remote EDC deployments reliably over inexpensive low-bandwidth connections without disruption to the ongoing surveys.

Conclusions/Next steps: The BCPP demonstrated how the collection of complex research-grade participant-level longitudinal data from households in multiple communities lacking reliable power and internet can be simplified through the use of locally developed electronic research data systems.
Thursday 21 July
Poster Exhibition

THPEE626
FEASIBILITY AND ACCEPTABILITY OF A BIOMETRIC IDENTIFICATION SYSTEM USING IRIS RECOGNITION IN ROUTINE HIV SERVICES IN KENYA

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Background: Unique patient identification within health services can improve surveillance and follow-up within routine programs but may be challenging to operationalize. With biometric use expanding within and outside of healthcare settings, we assessed the feasibility and acceptability of integrating an iris recognition biometric identification system into routine HIV testing and counselling (HTC) at 4 sites in Kenya.

Methods: Patients who had recently or previously tested HIV-positive in two urban and two rural health facilities were enrolled. An electronic version of the national HTC intake form assessing patient risk factors and reasons for testing was administered. Images of the iris were captured using a dual-iris camera connected to a laptop. A pilot iris biometric identification system software networked across the sites, analysed the iris patterns; created a template from those patterns; and generated a 12-digit ID number based on the template, which was used as the unique patient identifier. During subsequent visits, patients’ irises were rescanned and each pattern was matched to stored templates to retrieve the unique ID number.

Results: Over 35 weeks, 8,256 (89.5%) of 9,223 new patients were assigned a unique ID on their first visit. Among 5,236 return visits, the system correctly re-identified patients’ IDs 4,177 times (79.7%). The false accept rate (a patient given the ID of another patient) was 1.2% while the false reject rate (re-scans assigned a new ID) was 17.5%. As the biometric software was tuned to the study population over the course of the study, false accept and reject rates declined and were 0.2% and 3.8% respectively during the last 6 weeks. Overall, 95% (1% among 9,318 patients approached) declined to enrol in the study and 15 (0.1%) agreed to enrol but declined to serve as the basis of jurisdiction-wide activities to return in care. The most common reasons cited for declining an iris scan were concerns about privacy and confidentiality.

Conclusions: Integration of an iris recognition biometric patient identification system into routine health information systems was feasible and highly acceptable in these Kenyan HIV programs. Scale-up could improve unique patient identification and tracking, and could enhance disease surveillance activities.

Funding: NIH/NIAID # A1099974 S1
and clients. Based on the data captured, we were able to determine the proportion presented data in graphical form. Reports generated provide information on CHWs Project.

Methods: In April 2015, the Ministry of Health held a national eMTCT stocktaking meeting to identify best practices, challenges and opportunities for acceleration. The key challenge noted was high rates of attrition in 2014 due to 17,432 missed opportunities- identified HIV positive pregnant woman who did not receive maternal ART.[1] From June to December 2015 a campaign called “Bring back the Women and Children” to audit and trace the missed opportunities was conducted. Facilities accounting for 75% of the 17,432 women were prioritized. The audit reviewed and compared data of the District Health Information System (DHIS2) with facility eMTCT service, summary and pharmacy records. Follow up by community outreach was initiated to trace and return missed women into care. Specific tools and Standard Operating Procedures (SOPs) for data verification, client tracking and reporting were developed and used. Verified data errors were corrected in DHIS2. Confidentiality was upheld. Findings from 21 counties accounting for 9752 (56%) of 17,432 missed opportunities were reviewed, validated and analysed.

Results: Of the 9752 missed opportunities, 6,935 (71%) were data transcription errors between primary tools and DHIS2. Of the remaining 2817, 1093 (39%) had received ART but were only documented in the pharmacy records. Out of the 9752, true missed opportunities were 1724 (17%). Of these, 681 (40%) were traced in the community and 449 (70%) of them were initiated on maternal ART.

Conclusions: Data errors considerably overestimated the numbers of women who missed ARVs for PMTCT. Kenya is currently focusing on investment in data triangulation, audit, validation and use - a critical component of eMTCT.

Lessons learned: During the first half of the year 11,732 clients were booked by 65 CHWs, 6,111 (52%) of whom came for MC services; whilst in the later months when the dashboard was fully operational, 43,835 clients were booked by 232 CHWs and 20,555 (47%) came for MC services. Each CWH worked an average of 19 days in each month, and made an average of 53 bookings per month. An average of 25 clients turned up per CHW per month.

Conclusions/Next steps: The electronic dashboard is an efficient tool for supervising CHW performance, assuring adherence to quality standards and promoting fluid information sharing between community and organization. The application of robust M&E systems for monitoring demand creation activities should be in place at genesis of programs, particularly for improving supervision and feedback to CHWs. Based on our observations, improvements are underway to employ a more sophisticated data validation system on the backend in order allow for real time data collection and more accurate analysis of program data.
SPECIFIC PRACTICES, IMPACTS AND RESPONSES FOR DISTINCT SUBSTANCES AND MODES OF ADMINISTRATION (INCLUDING ALCOHOL USE, INJECTING DRUG USE AND NON-INJECTING DRUG USE)

THPED632
A QUALITATIVE STUDY ON PERCEIVED BARRIERS AND FACILITATORS TO REDUCE ALCOHOL USE AND IMPROVE ANTIRETROVIRAL TREATMENT (ART) ADHERENCE AMONG HAZARDOUS ALCOHOL USERS LIVING WITH HIV IN THAI NGUYEN, VIETNAM

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Background: The Vietnam Administration for AIDS Control has made significant progress in controlling the HIV epidemic by focusing its attention on risk behaviors, including injection drug use and unprotected sex. However, alcohol use, a highly normative behavior in Vietnam that is associated with high rates of HIV infection and poor antiretroviral treatment (ART) adherence, has been overlooked. To develop effective alcohol reduction programs for HIV-infected clients, research is needed to understand the clinical and sociocultural experience of hazardous alcohol users living with HIV in Vietnam.

Methods: We conducted in-depth interviews with 30 HIV-infected hazardous drinkers in northern Vietnam to explore perceived barriers and facilitators to reduce alcohol use and improve ART adherence. Eighteen men and 12 women with scores of >18 on the Alcohol Use Disorders Identification Test (AUDIT) were recruited from an outpatient ART clinic. Semi-structured interviews were transcribed, translated, and analyzed to identify themes.

Results: The mean AUDIT score was 11.5 (10.8 women; 11.9 men), indicating a strong likelihood of hazardous or harmful alcohol consumption. The majority of participants reported a spike in alcohol consumption at the time of HIV diagnosis. While about half reported gradually reducing their alcohol use over the course of a year post-diagnosis, the other half reported maintaining or increasing their alcohol consumption after their initial spike. The main barriers to reducing alcohol use were: availability of inexpensive alcohol; perceived inability to refuse alcohol in context of social norms; alcohol use to cope with depressive symptoms often related to being HIV-infected; compensatory behaviors when attempting to reduce injection drug use; lack of alcohol treatment programs. Family and HIV provider support played a major role for those who reported reducing their alcohol use and maintaining good ART adherence.

Conclusions: Findings demonstrate that hazardous alcohol users who are HIV-infected are faced with trying to avoid a highly normative behavior with few resources. Programs started at initial HIV diagnosis to create or enhance social support may help reduce hazardous drinking among HIV-infected clients. However, this may not be sufficient for some hazardous drinkers who need more intensive mental health counseling. Trials to assess effective counseling interventions are needed.

GENDER ISSUES AND GENDERED RELATIONSHIPS

THPED631
IMPROVING MATERNAL HEALTH IN NORTH-CENTRAL NIGERIA THROUGH PLHIV DRIVEN GENDER NORMS INTERVENTIONS: LESSONS FROM THE DENGi COMMUNITY PRESENTED BY USBA A. EDWARD

Li Acenenda Edward1, E. Joseph2, O. Iyai-Paul3, O. Akinnmade4, O. Olaiya4, C. Okoli5, S. Enejo6

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Background: Cultural, religious and socio-economic factors are known barriers to health care access amongst women in North-central Nigeria. Culture requires a woman obtains permission from her husband before accessing healthcare services including HIV counselling and testing services. Furthermore, women are economically dependent on their husbands and not empowered to either demand safe sex nor allowed to question an unfaithful partner.

Methods: In 2014, PHI identified and trained PLHIV/ Community volunteers to provide Gender norms education through contact sessions for up to ten hours per group before graduation in Dengi community. Traditional social structures were then used in carrying out community sensitization campaign on male involvement in women’ access to health care services and understanding the influence of gender norms on HIV transmission. The number of women who accessed HIV counselling and testing in the one year period prior to and post intervention were compared.

Results: Between October, 2013 and September, 2014, 1,948 (28%) out of 6,852 women had opportunity of knowing their HIV status among who 231 tested positive (11.8%). Following the intervention between October, 2014 to September, 2015, 5325 (72.7%) of 7,321 women knew their HIV status with 190 testing positive (3.6%). The post intervention yield demonstrated a 3,377 increase in number of women accessing HIV testing services representing a 73% increase in yield.

Conclusions: The use of PLHIV and other community volunteers in providing Gender norms education services targeting men and other traditional leaders to allow women access to Health services proved to be very effective in increasing the number of women reached with HTC services thereby reducing risk of HIV infection.

VIOLENCE, WELLBEING AND SEX WORK

THPED633
FAILURES OF JUSTICE: STATE AND NON-STATE VIOLENCE AGAINST SEX WORKERS AND SEARCH FOR SAFETY AND REDRESS COMMUNITY RESEARCH PROJECT OF SWAN IN CENTRAL/EASTERN EUROPE AND CENTRAL ASIA

K. Ordiok, A. Petrova
SWAN Foundation for the Rights of Sex Workers in CEECA, Budapest, Hungary

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Background: In 2007, SWAN undertook regional, sex worker-led research on police raids, detention, and the level of physical, sexual, psychological violence against sex workers. In 2015 SWAN decided to follow up with another community based research, focusing on how police violence alters the working conditions of sex workers, what blocks redress and access to justice, what are the dynamics between state and non-state violence and HIV implications.

Ahmedabad, India
Methods: The research was undertaken in 16 countries from Central and Eastern Europe and Central Asia. The research team included main author and research coordinator, both sex workers, a sex worker advisory group who reviewed the whole process, and local research teams of sex workers and allies, who conducted the interviews. 320 semi-structured and 9 in-depth qualitative interviews were held with women, men and trans sex workers.

Results: Forty percent of respondents have been arrested in the last twelve months, one in five experienced physical violence and one in seven experienced sexual violence by police. Twenty percent reported extortion. Many experienced more than two incidents of physical and sexual violence by non-state actors.

The survey showed that condoms and syringes are routinely confiscated, destroyed or used by police as “evidence of crime”, and sex workers are displaced from their work location as a consequence of arrests, extortion and fines. Social and racial profiling for repression based on gender, drug use or Roma ethnicity is identified, and cases of forced HIV/STI testing are documented.

Conclusions: Police repression of sex workers and clients create HIV risks for sex workers by displacing them to dangerous environments, reducing ability to screen and negotiate with clients and reducing ability of protection by confiscation or destruction of condoms and syringes. Police repression fracture the longer-term ties of sex workers, services and access to drug, HIV or HCV treatment and care. Arrests and detention lead to treatment interruptions, fines and extortion make it difficult to have sufficient money for transportation, access to care or securing adequate nutrition. Fears that one’s drug use or sex work might be reported to police or child welfare authorities discourage sex workers from seeking testing, treatment and care.

Conclusions/Next steps: There is need for more innovative IDU targeted interventions to address high prevalence of needle sharing among IDUs.

Background: Needles and risky sexual behavior amongst IDUs have been reported to be related to high incidence of HIV and other STIs (IBBSS 2010). About 10% of new HIV infections are as a result of injecting drug use (UNAIDS 2007). This situation is further worsened by social discrimination and poverty in many developing countries, leading to increase in prevalence of both STI and HIV. This study is aimed at describing the burden and key factors associated with high rate of needle sharing and risky sexual practices among IDU in Lagos State.

Description: A multistage stratified random sampling method was used to recruit 125 IDU respondents in five selected Local Government Areas (LGAs) of Lagos State. Information on socio-demographic characteristics, risk perception and needle sharing was collected using a semi-structured questionnaire. Analysis was done using Statistical Package for Social Sciences (SPSS) version 16. Description analysis was done for categorical variables to identify prevalence while chi-square tests were used to test for association between variables. A binary logistic regression analysis was also done to identify factors associated with needle sharing and high sexual risk activities by IDU.

Lessons learned: About 92% of respondents have lived in the drug community for more than 12 months. 88.8% injected drugs daily. 50% of IDU shared needles in 5 Local government Areas (LGAs). These 5 LGAs combined contributed. 71.7% of total number of IDU that reported needle sharing in Lagos. Majority (92.4%) said they ‘hustle’ including commercial sex work (78.0%), to get money daily for drug purchase. Condom use was 70.1% and 48.3% among IDU who engage in commercial sex work and multiple sex partnering. Needle sharing was higher among respondents who inject drugs daily (72.6%), compared to those who injected drugs once weekly (33.3%) P = 0.045. IDUs who are bunk based are 0.029 times more likely to share needle than those who dwell in their own house. IDUs whose risk perception was low is 0.246 times more likely to engage in sexual risk activities than those with high risk perception.

Conclusions/Next steps: There is need for more innovative IDU targeted interventions to address high prevalence of needle sharing among IDUs.

Methods: Catalyst Group (Swasti, Vrutti and CMS) manages the Avahan Phase III initiative (2014-2017), funded by BMGF, supports 84 Community Organizations (COs) across 5 states of India. 3,062 KPs have been facilitated access to life insurance, 4,190 KPs to health insurance; 3,400 KPs to health insurance. Additionally, 223 members have also enrolled themselves for pension. 867 loans have also been facilitated to the members during the period. The trend of HIV prevalence and the number of new infections detected continues its downward trend during the reporting period. By March 2017, at least 1,31,000 community members will improve their financial behaviours by learning about the role of financial security in reducing HIV vulnerability, the financial products available and learning to access them.

Conclusions: Forty percent of respondents have been arrested in the last twelve months, one in five experienced physical violence and one in seven experienced sexual violence by police. Twenty percent reported extortion. Many experienced more than two incidents of physical and sexual violence by non-state actors.

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Conclusions: Police repression of sex workers and clients create HIV risks for sex workers by displacing them to dangerous environments, reducing ability to screen and negotiate with clients and reducing ability of protection by confiscation or destruction of condoms and syringes. Police repression fracture the longer-term ties of sex workers, services and access to drug, HIV or HCV treatment and care. Arrests and detention lead to treatment interruptions, fines and extortion make it difficult to have sufficient money for transportation, access to care or securing adequate nutrition. Fears that one’s drug use or sex work might be reported to police or child welfare authorities discourage sex workers from seeking testing, treatment and care.

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FRAB0101LB
ENHANCED INFECTION PROPHYLAXIS REDUCES MORTALITY IN SEVERELY IMMUNOSUPPRESSED HIV-INFECTED ADULTS AND OLDER CHILDREN INITIATING ANTIRETROVIRAL THERAPY IN KENYA, MALAWI, UGANDA AND ZIMBABWE: THE REALITY TRIAL

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1University of Zimbabwe Clinical Research Centre, Harare, Zimbabwe, 2Joint Clinical Research Centre, Kampala, Uganda, 3MRC Clinical Trials Unit at UCL, London, United Kingdom, 4Moi University School of Medicine, Eldoret, Kenya, 5Department/College of Medicine and Malawi-Liverpool-Wellcome Trust Clinical Research Programme, Blantyre, Malawi, 6University of London, United Kingdom

Background: Mortality from infections is high in the first 6 months of antiretroviral therapy (ART) among HIV-infected adults and children with advanced disease in sub-Saharan Africa. Whether an enhanced package of infection prophylaxis at ART initiation would reduce mortality is unknown.

Methods: The REALITY 2x2 factorial open-label trial (ISRCTN43622374) randomised ART-naive HIV-infected adults and children >5 years with CD4<100 cells/mm³. This randomisation compared initiating ART with enhanced prophylaxis (continuous cotrimoxazole plus 12 weeks isoniazid/pyridoxine (anti-tuberculosis) and fluconazole (anti-cryptococcal/candida), 5 days azithromycin (anti-bacterial/protozoal) and single-dose albendazole (anti-helminthi)), versus standard-of-care cotrimoxazole. Isoniazid/pyridoxine/cotrimoxazole was formulated as a scored fixed-dose combination. Two other randomisations investigated 12-week adjunctive raltegravir or supplementary food. The primary endpoint was 24-week mortality.

Results: 1805 eligible adults (n=1733;96.0%) and children/adolescents (n=72;4.0%) (median 36 years; 53.2% male) were randomised to enhanced (n=906) or standard prophylaxis (n=899) and followed for 48 weeks (3.8% loss-to-follow-up). Median baseline CD4 was 36 cells/mm³ (IQR 16-62) but 47.3% were WHO stage 1/2. 80(8.9%) died before 24 weeks (aHR=0.73 (0.58-0.97) p=0.03; Figure) and 98(11.0%) versus 127(14.4%) respectively died before 48 weeks (aHR=0.75 (0.58-0.98) p=0.04), with no evidence of interaction with the two other randomisations (p=0.8). Enhanced prophylaxis significantly reduced incidence of tuberculosis (p=0.02), cryptococcal disease (p=0.01), oral/pharyngeal candidiasis (p=0.02), deaths of unknown cause (p=0.02), and (marginally) hospitalisations (p=0.06) but not presumed severe bacterial infections (p=0.38). Serious and grade 4 adverse events were marginally less common with enhanced prophylaxis (p=0.06). CD4 increases and VL suppression were similar between groups (p=0.2).

Conclusions: Enhanced infection prophylaxis at ART initiation reduces early mortality by 25% among HIV-infected adults and children with advanced disease. The pill burden did not adversely affect VL suppression. Policy-makers should consider adopting and implementing this low-cost broad infection prevention package which could save 3.3 lives for every 100 individuals treated.

FRAB0102LB
12-WEEK Raltegravir-INTENSIFIED QUADRUPLE THERAPY VERSUS TRIPLE FIRST-LINE ART REDUCES VIRAL LOAD MORE RAPIDLY BUT DOES NOT REDUCE MORTALITY IN SEVERELY IMMUNOSUPPRESSED AFRICAN HIV-INFECTED ADULTS AND OLDER CHILDREN: THE REALITY TRAIL

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Background: Early mortality after initiating antiretroviral therapy (ART) is high among HIV-infected adults and children with advanced disease in Sub-Saharan Africa. Intensifying ART with an integrase inhibitor should reduce viral load (VL) faster, but whether this reduces early mortality is unknown.

Methods: The REALITY 2x2 factorial open-label trial (ISRCTN43622374) randomised ART-naive HIV-infected adults and children >5 years with CD4<100 cells/mm³ from Kenya, Malawi, Uganda and Zimbabwe. This randomisation compared initiating ART with 2 NRTI+NNRTI ART with or without 12-week raltegravir intensification. Two other randomisations investigated 12-week enhanced infection prophylaxis or supplementary food. The primary endpoint was 24-week mortality.

Results: 1805 eligible adults (n=1733;96.0%) and children/adolescents (n=72;4.0%) (median 36 years; 53.2% male) were randomised to raltegravir-intensified versus standard ART (p<0.001, <0.001, 0.59, 0.12, respectively) (Figure). 12-week raltegravir-intensified versus standard prophylaxis died before 24 weeks (adjusted hazard ratio[aHR]=0.73 (95% CI 0.54-0.97) p=0.03; Figure) and 98(11.0%) versus 127(14.4%) respectively died before 48 weeks (aHR=0.75 (0.58-0.98) p=0.04), with no evidence of interaction with the two other randomisations (p=0.8). Enhanced prophylaxis significantly reduced incidence of tuberculosis (p=0.02), cryptococcal disease (p=0.01), oral/pharyngeal candidiasis (p=0.02), deaths of unknown cause (p=0.02), and (marginally) hospitalisations (p=0.06) but not presumed severe bacterial infections (p=0.38). Serious and grade 4 adverse events were marginally less common with enhanced prophylaxis (p=0.06). CD4 increases and VL suppression were similar between groups (p=0.2).

Conclusions: Enhanced infection prophylaxis at ART initiation reduces early mortality by 25% among HIV-infected adults and children with advanced disease. The pill burden did not adversely affect VL suppression. Policy-makers should consider adopting and implementing this low-cost broad infection prevention package which could save 3.3 lives for every 100 individuals treated.

CD4 increases through 24 weeks were similar (p=0.82), although a small difference became apparent at 48 weeks (+163 cells/mm³ intensified versus +148 cells/mm³ standard, p=0.04). 97(10.9%) intensified versus 91(10.2%) standard ART died...
before 24 weeks [adjusted hazard ratio (aHR)=1.19; 95% CI 0.82-1.64; p=0.54]; 110 (12.4%) versus 115 (13.0%) died before 48 weeks (aHR=0.75; 95% CI 0.47-1.27; p=0.86), with no evidence of interaction with the two randomisations (p>0.7). There was no difference in time to first WHO 3/4 event or death (p=0.31).

Serious adverse events (SAEs), grade 3/4 AEs and drug-related AEs (adjudicated blind to randomisation) were similar in both groups (p=0.3).

Conclusions: 12-week raltegravir-intensified ART was well tolerated, resulted in faster VL reduction through 24 weeks and increased CD4 at 48 weeks, but did not reduce mortality or WHO 3/4 events.

FRABO 103BL
RALTEGRAVIR (RAL) 1200 MG ONCE DAILY (QD) IS NON-INFERIOR TO RAL 400 MG TWICE DAILY (BID), IN COMBINATION WITH TENOFOVIR/EMTRICITABINE, IN TREATMENT-NAIVE HIV-INFECTED SUBJECTS: WEEK 48 RESULTS
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Background:
The investigational reformulated RAL 600mg tablet for QD use at 1200mg dose could provide a more convenient option for treatment of HIV-1 infection.

Methods:
ONCERMK is a phase 3, multicenter, double-blind, randomized, controlled trial to evaluate if reformulated RAL 1200mg QD is non-inferior to RAL 400mg BID. Treatment-naive HIV-1-infected subjects were assigned (2:1) to reformulated RAL 1200mg QD or RAL 400mg BID, both with tenofovir/emtricitabine, for up to 96 weeks. Randomization was stratified by screening HIV-1 RNA (vRNA) and chronic hepatitis B/C status. The primary efficacy endpoint was the proportion of subjects with vRNA < 40 copies/mL at Week 48 (Non-Completer=Failure).

Results:
Of 802 subjects randomized, 797 received study therapy and were included in the analyses; 732 (92%) completed 48 weeks of treatment. The study population was 85.6% male, 59.8% white, mean age 35.9 years, mean CD4 count 415/mm3, mean plasma HIV-1 RNA 4.6 logs copies/mL, 28.4% had baseline vRNA >100,000 copies/mL, 2.9% had hepatitis B and/or C co-infection. Subjects in both groups achieved a rapid decline in vRNA (>50% reaching vRNA < 40 copies/mL by Week 4). At Week 48, RAL 1200mg QD was non-inferior to RAL 400mg BID (vRNA < 40 copies/mL in 88.9% and 88.3%, respectively, Δ(QD-BID)=0.5%, 95% CI [-4.2,5.2]). Study results did not differ significantly by baseline vRNA or hepatitis co-infection status. RAL 1200mg QD also had comparable immunologic efficacy, as measured by change from baseline in CD4 cell counts. Both treatment regimens were well-tolerated with comparable incidence of clinical adverse events (table) and laboratory values exceeding predefined limits of change (based on D471S toxicity criteria).

Conclusions:
In HIV-infected treatment-naive subjects receiving tenofovir/emtricitabine, reformulated RAL 1200mg QD demonstrated potent and non-inferior efficacy compared to RAL 400mg BID at Week 48. RAL 1200mg QD was safe and well tolerated with a safety profile similar to RAL 400mg BID.

FRABO 104BL
DOLUTEGRAVIR-LAMIVUDINE AS INITIAL THERAPY IN HIV-INFECTED, ARV NAIVE PATIENTS: 48 WEEK RESULTS OF THE PADDLE TRIAL
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Background:
Based on the results of the GARDEL trial, we designed a proof of concept study to evaluate the antiviral efficacy, safety and tolerability of a dual therapy regimen with Dolutegravir (DTG) 50mg qd plus Lamivudine (3TC) 300 mg qd as initial HAART among ARV-naive patients.

Methods:
Pilot study including 20 HIV-infected ARV-naive adults. Eligible participants had no IAS-USA defined NRTI resistance, HIV-1 RNA < 100,000 copies/mL at screening and negative HBsAg. Viral load (VL) was measured at baseline, on days 2, 7, 14, 10, 14, 21 and on weeks 6, 8, 12, and thereafter every 12 months up to 96 weeks. Primary endpoint was the proportion of patients with HIV-1 RNA< 50 copies/mL in an ITT-exposed analysis at 48 weeks. (FDA-structural algorithm). Week 24 interim analysis was already presented at EACS 2015. Week 48 results are reported here.

Results:
Median HIV-1 RNA at baseline was 24,128 copies/mL (IQR: 11,686-36,794). albeit as per protocol, all patients had pVL< 100,000 copies/mL at screening, four patients had ≥100,000 copies/mL at baseline. Median CD4+ T-cell count was 507 per μL (IQR: 296-517). A rapid antiviral response was observed. (Median VL decay baseline-to week 12 was 2.74 logs). All participants had pVL ≤ 50 copies from week 8 onwards up to week 24. At week 48, 90% (18/20) reached the primary end point of a pVL < 50 copies/mL. No major tolerability/toxicity issues were observed.

Eighteen patients completed 48 weeks of the study, one patient (with undetectable viral load at last visit) committed suicide, in the context of a severe and emotional trauma deemed unrelated to study medication. One patient presented a low protocol-defined confirmed virological failure at week 36, being the only observed failure. This patient resuppressed to pVL ≤ 50 copies/mL prior to treatment intensification. Resistance tests revealed: RT-eno emergent substitutions; Integrase: Not amplifiable.

Conclusions:
Dual therapy with DTG/lamivudine produced rapid virologic suppression with a favorable safety/tolerability profile in HIV-infected, treatment-naive individuals. Observed failure rate was 5%. This is the first report of a successful INSTI/ lamivudine-based dual therapy in ARV-naive patients after 48 weeks of treatment.

FRACO 101
CHALIO A SOCIAL MEDIA BASED PEER-DELIVERED INTERVENTION INCREASES HIV TESTING IN MEN WHO HAVE SEX WITH MEN IN MUMBAI, INDIA: A RANDOMIZED TRIAL
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Background:
Social media can provide effective delivery of HIV prevention messages to men who have sex with men (MSM). This study is the first to engage MSM in India in an online intervention to investigate the efficacy of two types of HIV prevention message framing: Approach (i.e., a good outcome to be achieved) versus Avoidance (a bad outcome to be avoided).

Methods:
Using participatory processes, we developed messages targeting HIV testing to fit either approach- or avoidance frames. Using social media, we recruited MSM ages 18 or older living in Mumbai. After completing a screener and baseline survey online, participants were randomized to receive either 16 approach- or 16 avoidance-framed messages via their preferred modality: private Facebook group, individual WhatsApp messaging, or email. Peers delivered messages 2/week for 12 weeks (February-May 2015), and participants completed a post-intervention survey. Primary outcomes were 1) recent HIV test (past 6 months) and 2) intention to test in the next month.

Results:
Over 82% of participants (n=200) were retained, and 53% (n=130) completed follow-up; there were no baseline differences by messaging arm or follow-up completion. Participants were primarily between 18-29 years old (64%), identified as gay (67%) or bisexual (26%), had an average of 4 male partners in the past 3 months, and 39% reported inconsistent condom use. There was a significant in-
Sexual Health Service, Cairns North, Australia, Sexual Health Centre, Sydney Hospital, Sydney, Australia, of MSM, with potential for wide national reach. Further work is needed to better understand these findings and their implications for HIV prevention efforts.

**Methods:** In this wait-list control randomised trial, HIV-negative higher-risk GBM were recruited from three clinical and two community-based sites in Australia. Enrollment occurred between 2014 and 2015. Participants were assigned to one of two arms: self-testing and standard care, or standard care and self-testing. The primary outcome was the number of HIV tests over 12 months, analysed by intention-to-treat. The study was designed to evaluate the primary outcome overall and in subgroups defined by age, race, and gender.

**Results:** Between December 2013 and November 2014, 180 men were randomised to self-testing and 179 to standard care. The intention-to-treat analysis included men who completed any follow-up questionnaire. Seventy-two per cent of self-testers and 89% of standard-care testers completed self-testing. The mean number of HIV tests over 12 months in the self-testing and standard-care arms was 3.9 and 1.6 per-person overall (rate ratio (RR): 2.39, 95% CI: 2.08-2.76, p < 0.001). There was no statistical difference between the two arms in the mean number of facility-based HIV tests (1.4 vs 1.6, RR: 0.89, 0.75-1.06) and any STI test (1.6 vs 1.7, RR: 0.93, 0.79-1.10).

**Conclusions:** HIV self-testing among higher-risk GBM increased HIV testing frequency by more than two-fold overall, and more than five-fold among infrequent testers, without reducing facility-based HIV/STI testing frequency. Self-testing should be provided more widely to achieve public health goals of increasing HIV testing frequency.

**FRAC0103**

**COMMUNITY-BASED VOLUNTARY COUNSELING AND TESTING SUCCESSFULLY IDENTIFIES HIV-POSITIVE ART ELIGIBLE INDIVIDUALS IN RURAL SOUTH AFRICA**

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**Background:** Community-based voluntary counseling and testing (CBVCT) is a validated strategy to increase HIV awareness and testing. South Africa has the largest global epidemic of HIV, and a substantial proportion is unaware of being infected. New testing strategies are needed. We describe a successful CBVCT strategy in rural South Africa.

**Methods:** A team of nurses and community health workers provided health education, rapid HIV testing and concurrent TB screening in congregate community settings in rural KwaZulu Natal from 2010-2015. Those identified with HIV were offered confirmatory testing, CD4 staging, individual counseling based on CD4 count and referral to care and antiretroviral treatment (ART) according to national guidelines.

**Results:** CBVCT was performed at 849 community sites including municipality events, pension pay points, and taxi ranks. Among 13,278 screened, the median age was 42 (IQR 23-57), 80.9% were women, and 11,435 (86%) accepted HIV testing. Twelve hundred and forty-four (9.4%) individuals were identified as HIV-infected. Among 720 (57.9%) accepting phlebotomy, the median CD4 count was 424 (IQR 270-583); 447 (62%) qualified for antiretroviral therapy (ART). A substantial proportion of participants (4510, 39.4%) reported first-time HIV testing. Preliminary analysis identifies correlates of HIV-positive test result including young age (<p = 0.001), contact with a TB patient (<p = 0.001), chronic diarrhea (<p = 0.001), recurrent pneumonia (<p = 0.001), and type of community site of HIV testing (<p = 0.001). Taxi ranks yielded the greatest proportion of community members (176/1123, 15.7%) with HIV-positive test result. Among all HIV-positive men, the greatest proportion (74, 25%) was identified at municipality events.

**Conclusions:** Community members accept HIV testing outside of health care facilities, and by non-clinical personnel. Utilising a variety of community testing sites reaches different demographic groups, including high-priority young men and women. CBVCT can detect a large number of HIV-infected individuals, the majority of whom are eligible for ART. Scale-up of CBVCT may provide needed increase in levels of HIV awareness, testing and diagnoses in rural areas.
their partner. In the comparison group, women were provided invitation cards for the partner to seek counselor-administered HIV testing at the clinics. Follow-up interviews were conducted with women after they reported their partner had tested, and all women were interviewed at 3 months. The primary outcome was HIV testing by the male partner within 3 months and the secondary outcome was couples testing within 3 months. Chi-squared tests were used to compare outcomes in the intervention and comparison group.

Results: Between June 11, 2015 and October 16, 2015, 600 women were randomly assigned to the HIVST group (n=297) or the control group (n=303). Follow-up was completed for 570 (95.0%) women. Male partner testing uptake was 90.5% (257/284) in the HIVST group and 51.7% (148/286) in the comparison group (difference=41.7%, 95% CI 34.3%-49.2%, P < 0.001). Couples testing was also significantly higher in the HIVST group (75.0% vs. 33.2%, difference=41.7%, 95% CI 34.3%-49.2%, P < 0.001). One adverse event was reported in the HIVST group and none were reported in the comparison group.

Conclusions: Secondary distribution of HIV self-tests by pregnant and postpartum women was highly effective in promoting male partner and couples testing. As countries scale up HIVST, further implementation of secondary distribution interventions can help increase HIV testing uptake among hard-to-reach populations.

FRACO105LB
THE IMPACT OF UNIVERSAL TEST AND TREAT ON HIV INCIDENCE IN A RURAL AFRICAN POPULATION: ANRS 12249 TASP TRIAL, 2012-2016
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Background: The population impact of universal test and treat (Utt) on HIV transmission has not yet been evaluated.

Methods: A cluster-randomized trial was implemented in 2x11 rural communities in KwaZulu-Natal, South Africa. All residents ≥16 years were offered rapid HIV testing and provided dried blood spots (DBS) during 6-monthly home-based survey rounds. HIV-positive participants were referred to cluster-based trial clinics to receive ART regardless of CD4 count (intervention arm) or according to national guidelines (control arm). Standard of care ART was also available in the Department of Health clinics. HIV incidence was estimated on repeat DBS using cluster-adjusted Poisson regression.

Results: Between 03/2012 and 04/2016, 13,239 and 14,916 individuals (63% women, median age 30 years) were registered in the intervention and control arms. Contact frequency per round among registered individuals ranged from 64% to 83%, HIV ascertainment from 74% to 85%. Baseline HIV prevalence was 29.4% (95%CI 28.8-30.0), with 7,578 individuals identified as HIV-positive (31.53% (95%CI 31.47-31.59)) of 4,172 HIV-positive individuals not previously in care linked to trial clinics within 6 months of referral. ART initiation in trial clinics at 3 months was 90.9% (95/763/64) and 52.3% (352/635) in the intervention and control arms; viral suppression (< 400 copies/ml) 12 months after ART initiation was 94.9% (300/316) and 94.2% (149/156), respectively. Among those not on ART entry, 31% and 36% in the intervention and control arms, reaching 41% in both arms by closing date. Repeat DBS tests were available for 13,693 individuals HIV-negative at baseline, yielding 461 seroconversion in 20,833 person-years (PY). HIV incidence was 2.16 per 100 PY (1.80-2.54) in the intervention arm and 2.26 (1.98-2.54) in the control arm (adjusted relative risk 0.95 (0.82-1.10). Severe adverse events rates were 3.49 (4/51,323) and 3.5% (57/1,604) in the intervention and control arms. Follow-up will be completed by 06/2016.

Conclusions: Our trial shows high acceptance of home-based HIV testing and high levels of viral suppression among individuals on ART. However, overall linkage to care remains poor. No reduction in HIV incidence was demonstrated. Several factors are being investigated, including determinants of poor linkage, change in national ART guidelines, migration and geography of sexual networks.

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FRACO1001
POLICIES, PRACTICING AND PUBLIC MORALITY

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Background: The prevention impact of antiretroviral therapy (ART) is now established as a key component of the HIV response. But despite this remarkable scientific advancement, many people living with HIV around the world remain vulnerable to the risk of unjust prosecutions for alleged HIV non-disclosure, potential or perceived exposure or non-intentional HIV transmission due to up-to-date science on HIV risk has not been recognised in criminal law and policy.

Description: We undertook a desk review of criminal proceedings, policy documents and newspaper reports collated on the HIV Justice Network website to better understand the implications of increased knowledge and awareness of the prevention benefit of ART as they relate to HIV non-disclosure, exposure and/or transmission laws, policies and prosecutions.

Lessons learned: Despite recognition by WHO and other normative agencies of the impact of ART on the risks of HIV transmission, criminal justice actors and lawmakers have been frustratingly slow to incorporate up-to-date HIV science into criminal law and policy. The key component of recognising the prevention impact of ART on HIV risk has been collaboration between scientists, clinicians, lawyers and advocates. This is as true in the Netherlands, the first country to consider low viral load as a factor in assessing HIV risk in 2005, as it has been in, for example, the US Court of Appeals for the Armed Forces (2015) and the Czech Republic (2015). Without this co-ordinated effort higher courts and lawmakers generally ignore up-to-date science even if lower courts occasionally make more rational, informed decisions, for example, in Austria, Canada and Germany.

Conclusions/Next steps: It is vitally important that criminal justice system actors and policy makers understand the implications of increased knowledge and awareness of the prevention benefit of ART as they relate to HIV non-disclosure, exposure and transmission laws, policies and prosecutions. It is equally important that we raise the voice of people living with HIV and people likely to make a criminal complaint.

FRACO1012
INCONSISTENCIES IN LEGAL FRAMEWORKS ON ADOLESCENT HIV AND SEXUAL AND REPRODUCTIVE HEALTH SERVICES IN FIVE SOUTHERN AFRICAN COUNTRIES

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Background: While specific disaggregated HIV prevalence data for adolescents (aged 12 to 18) does not exist, young people (aged 15-24) account for 39% of all HIV infections globally, most of which occur in Sub-Saharan Africa (SSA). Conflicting laws surrounding the age of consent, sexual activity between adolescents and mandatory reporting — which in some instances criminalise certain sexual activities between adolescents - have a deleterious impact on the extent to which adolescents can access and, by extension, receive HIV counselling and testing and other sexual and reproductive health (HCT/SRH) services. The legal frameworks around HCT/SRH service provision in Malawi, Mozambique, Namibia, Zambia and Zimbabwe, five SSA countries with high adolescent HIV prevalence rates, were analysed for their impact on adolescents’ access to HCT/SRH services.

Methods: Following desktop-based analysis of legal and policy frameworks, we conducted in-depth interviews with representatives of organisations providing adolescent HCT/SRH services, as well as academics, advocates, and policy makers, in the five countries. Interview data were analysed thematically and compared across specific issues and countries.

Results: Laws regulating adolescents HCT, SRH and sexual activity are inconsistent and differentially interpreted within and across the five countries analysed. Conflicts exist between laws regulating age of consent to HCT and other SRH services, with the effect that adolescents have more barriers to preventative than diagnostic and curative services. Where consent to sex is regulated at a higher age than consent to HCT/SRH services, adolescents in effect need to disclose illegal sexual activi-
FRADO103
SENSITISING JUDGES ON HIV, HUMAN RIGHTS AND THE LAW: THE REGIONAL JUDGES’ FORUM IN AFRICA

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Background: Sub-Saharan Africa accounts for 69% of people living with HIV. In many African jurisdictions, people living with or affected by HIV encounter stigma, discrimination and violations of rights that increase the impact of HIV on their lives and create barriers to services. Protecting human rights is essential for access to services. The judiciary can play a critical role in upholding the rights of people infected and affected by HIV.

Description: UNDP supported two meetings of the Africa Regional Judges’ Forum in 2014 and 2015. Judges chaired sessions on HIV science, key populations, HIV laws, human rights, case law related to PLHIV, MSM, sex workers, access to medicines, etc. Expert resource people, including HIV science and legal experts, and key population experts provided input to produce a report ever created by sex workers to confront the impact of outmoded and restrictive policies.

Lessons learned: The Forum was based on issues raised by Judges, and provided a collegial space for them to identify participants, themes, and the agenda. Judges who have made ground-breaking rulings acted as resource persons, complemented by thematic and key population experts. Twenty-six judges from 16 African countries participated in these two meetings and discussed HIV science, human rights of key populations (sex workers, transgender people, MSM and prisoners) and access to anti-retroviral therapy. Mock trials and case law discussions focused on issues addressed at the sessions in 2014 and 2015. Team members built their capacity to engage in policy and media advocacy, developing a letter to the Office of National AIDS Strategy in partnership with other groups and created statement that were distributed widely in the media and the HIV sector.

Lessons learned: The project includes advocacy and organizing efforts led by US sex workers and the production of a series of reports to reveal how current HIV policies impact sex workers. An overarching goal of the project is to ensure that sex workers are acknowledged in the National AIDS Strategy as essential partners in ending HIV and to consider the impact of US policy on sex workers worldwide.

Description: The project is multi-pronged involving community building, documentation and advocacy. In 2015 a community based research team was established with key partner organization of sex worker lead groups. A survey was implemented with 25 US respondents about transgender people’s experiences related to HIV. The emerging issues were explored with 40 respondents in open-ended interviews in person, phone, or email, ranging from 30 minutes to two hours. The team used statistical and thematic analysis of the qualitative data. Throughout 2015 team members built their capacity to engage in policy and media advocacy, developing a letter to the Office of National AIDS Strategy in partnership with other groups and created statement that were distributed widely in the media and the HIV sector.

Lessons learned: The project findings include:
- that sex workers are not mentioned in the National AIDS Strategy of the United States, a silence that has contributed to a profound health and rights crisis for sex workers and people profiled as sex workers (such as transgender people);
- the criminalization of the lives of sex workers is the central barrier to health and rights;
- the movement for sex worker rights in the United States is incrementally developing its capacity to effectively shift policy discourse and to publicize best practice initiatives via media interventions;
- ongoing resources are required to begin to establish employment opportunities in sex worker-led organizations in the United States for sex workers and transgender people to build for change in the HIV sector.

Conclusions/Next steps: This project is a milestone releaseing the first US national report ever created by sex workers to confront the impact of outdated and restrictive HIV policies. The project continues documenting the experiences of sex workers to guide our future work.

FRADO104
ENFORCING THE LAWS ON PUBLIC MORALITY AGAINST KEY POPULATIONS: THE DILEMMA OF THE GHANA POLICE SERVICE

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Background: Ghana has recorded significant progress in the fight against HIV over the last decade with current infection rates plateauing around the prevalence of 1.4% among the general population aged 15-49 years. However, significant challenges exist amongst Key Populations (KPs) with prevalence of 3% (FSW) and 17% (MSM), which plays a key role in the HIV transmission dynamics. Laws criminalizing KP activities stand in the way of progress in addressing HIV. Application of the law is often biased on prejudice, and not science/evidence.

Lack of enforcement of protective laws is problematic, with increased intolerance and rights violations of sex workers.

Description: To promote rights-based policing approaches towards KPs, the Ghana Police Service AIDS Control Program with support from UNFPA implemented orientation sessions in 6 Police Regions. The program targeted 611 police personnel from senior officers (SPO), inspectorate/middle and the operational levels. Sessions were organized through focus group discussions (FGD) to a) solicit information on how the police would identify a Sexual Minority, b) define laws that classify KPs, and c) understand what constitutes causation of sexual offences against public morals. Sensitization sessions immediately followed to address issues arising from the FGDs.

Lessons learned: FGDs revealed respondents’ appropriate interpretation of the laws ranging from 77% (SPO) to 70% (Inspectorate/Middle) and 38% (operational). Participants could not state key aspects of the law in the Criminal Offences Act. Discussants dwelt on perceptions (including the way of dressing) rather than facts regarding the causation of sexual offence; with appropriateness of responses ranging from 63% (Inspectorate/middle) to 59% (SPO) and 41% (operational). After sensitization sessions, participants accepted the need for reform and observed:
- a) senior officers who protect rights of KPs are compelled to arrest them due to political/societal pressure,
- b) morality should be decoupled from law enforcement,
- c) police must constantly dialogue with the judiciary to protect KP rights.

Conclusions/Next steps: Acceptance of misconduct is a major breakthrough to reform. This program, with approval of the Police hierarchy is taking steps to punish subsequent perpetrators of abuse of KPs. Consensus building among the police and efficient use of available resources will help to sustain the program.

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Oral Abstract Sessions

Abstract Book  I  www.aids2016.org
FRAD0106LB
INTERIM OUTCOMES OF THE NEW YORK PLAN TO END THE AIDS EPIDEMIC BY THE END OF 2020: ASSESSING A FAST TRACK MODEL
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Background: In 2014 a coalition of government and civil society representatives secured a commitment by New York State’s (NYS) Governor to end AIDS as an epidemic by the end of the 2020. NYS has defined the end of the epidemic as reducing the number of new HIV infections to just 750 (from an estimated 3,000) by the end of 2020. Once the number of new infections has fallen below all-cause mortality among people with HIV, NYS will achieve the first ever decrease in HIV prevalence in New York State.

Methods: A state-appointed Task Force of government and community stakeholders developed a detailed Ending the Epidemic (ETE) Blueprint to: identify persons who remain undiagnosed; link and retain diagnosed persons in care to maximize viral suppression; and broaden access to Pre-Exposure Prophylaxis (PrEP). The Blueprint builds upon a unique NYS HIV response that includes housing and nutrition supports, harm reduction programming, and social marketing to address stigma and promote testing, treatment and prevention. Public health agencies work closely with civil society to implement this Fast Track agenda, and an online “ETE Dashboard” tracks key metrics for accountability and planning.

Results: In NYC, which represents 80% of new diagnoses and persons living with HIV in NYS, HIV surveillance data indicate that 72% of an estimated 87,000 persons infected with HIV are virally suppressed (≤200 copies/ml), and findings from a multi-year survey of men who have sex with men (MSM) show PrEP awareness at 86% in 2015 (up from 34% in 2012) and PrEP use among MSM at 16% (up from 1.6% in 2012 and 2.8% in 2014). NYS has documented a 40% reduction in new HIV infections over the last decade, and preliminary data shows NYS recently went 17-months with no new cases of mother to child transmission for the first time since the outbreak of the disease.

Conclusions: Recent analyses indicate significant ongoing improvements in HIV treatment effectiveness and in comprehensive prevention awareness and use, putting New York on a path to end its HIV epidemic by the end of 2020 via replicable strategies to dramatically reduce new HIV infections and end AIDS deaths.

FRAD0202
THE FREE TRADE AGREEMENT THAT WILL ADVERSELY IMPACT ACCESS TO GENERIC MEDICINES IN THE ASIA-PACIFIC...AND NO, IT’S NOT THE TPP!
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Background: Regional Comprehensive Partnership (RCP) Agreement is between 16 countries in Asia-Pacific: developed countries (Japan, Australia, New Zealand, Singapore, South Korea), developing countries (China, India, Malaysia, Indonesia, Philippines, Thailand, Vietnam, Brunei, Palau, Laos) & LDCs (Myanmar, Cambodia, Laos). Scale-up of HIV treatment was only possible due to affordable generic medicines which have been adversely impacted by the WTO-mandated patent regime. Developing&least developed countries are advised to use TRIPS flexibilities to ensure continued generic production/import. TRIPS-plus measures that are included in FTAs negotiations require patent protection far in excess of that required by the WTO regime.

Methods: The study examined 4 leaked texts of the IP proposals of Japan, South Korea, India & ASEAN to identify TRIPS-plus demands. It also compiled the use of TRIPS flexibilities by countries in the region &analysed the changes that would be required as a result of TRIPS-plus demands and their potential impact on access to generic medicines in the region and beyond.

Results: The Study found multiple TRIPS-plus demands in the RCP negotiations including: (a)Substantive demands requiring governments patent news uses/forms of old medicines (evergreening); (b)Enforcement demands that would impact the export and transit of generic medicines; (c)Demands limiting the ability of patent offices to require crucial information from patent holders; (d)Demands impacting LDCs. TRIPS-plus demands prevent countries from using TRIPS flexibilities. In the region, Malaysia (2003), Indonesia (2004, 2007, 2012), Thailand (2006, 2008), India (2012) have issued compulsory licenses for HIV, heart disease, cancer medicines. India, Philippines &Thailand restrict evergreening patents. RCEP countries feature some of the most important generic producers that the world relies on like China(API) & India(API, finished formulations) while Thailand has government production of medicines. If TRIPS-plus in RCEP is accepted, repercussions will be felt far beyond Asia-Pacific.

Conclusions: 1-in-3 PLHIV have access to treatment in Asia-Pacific. HIV-positive pregnant women in South Asia have the world’s lowest rate of access to ARVs needed for PMTCT. In several countries (China, Indonesia, Philippines) rates of new infections & AIDS-related deaths are increasing. As middle-income, developing countries are facing severe funding cuts from Global Fund, MNC pharma is withdrawing lower prices/excluding from voluntary licenses. RCEP will make a bad situation worse and TRIPS-plus demands should be rejected outright &countries should pro-actively make greater use of TRIPS-flexibilities to ensure access to generic HIV, hepatitisC and TB treatment.
FRAD0203
ACCESS TO ARVs AND SOUTH AFRICAN PATENT LAW REFORM: REFLECTION AND WAYS FORWARD FOR THE FIX THE PATENT LAW CAMPAIGN
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Background: Over the past 15 years, South Africa has been a pioneer of expanding generic medicine access, with constant battles led by civil society advocates to challenge patent monopolies of pharmaceutical companies that block sustainable access to affordable ARVs. Yet, in South Africa, many access challenges for newer ARVs and other medicines needed by people living with HIV remain, while ongoing patent law reform has triggered intensive debates and advocacy.

Description: This research will examine strategies pursued by civil society organisations in South Africa over the past 15 years, their impact on medicines access and lessons learned. It will further review the ongoing reform of South Africa’s intellectual property system, and the opportunities and challenges to adopting pro-public health patent laws.

Lessons learned: Over the past 15 years, significant victories have been won through strategies employed by civil society organisations to secure access to generic ARVs in South Africa, including filing competition commission cases and calling for granting of compulsory licenses. Today, a first line ARV regimen is 96% cheaper than in 2000, supporting the scale-up of treatment.

However, fighting access battles drug-by-drug on an ad hoc basis has not changed systemic problems, such as current patent law lacking accommodation of public health needs. Seeking to adopt a more systemic approach to improve accessibility of medicine for all, the Fix the Patent Laws Coalition was founded in 2011, with 18 patient groups joining to date. During 2013, the South African government released a draft policy committing to pro-public health reform of the country’s intellectual property laws. Pharmaceutical companies have responded with various attempts to derail such reform.

Conclusions/Next steps: South Africa is at a critical stage in the ongoing battle for access to medicine versus expanding intellectual property protection. While there is opportunity for broad legislative reform to facilitate access to newer ARVs and all medicines there is significant push back from pharmaceutical companies. Fix the Patent Laws Coalition’s work demonstrates the need for greater international solidarity and coordination with adequate technical and political support in reforming the national patent laws for public health and pushing back on pharmaceutical companies’ efforts to thwart reform.

FRAD0204
REMOVING GLOBAL PATENT BARRIERS TO THE NEW GENERATION OF HEPATITIS C DRUGS
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Background: Globally, at least 4-5 million people living with HIV (PLHIV) are co-infected with the hepatitis C virus (HCV). As other AIDS-related deaths decrease with increased ART use, the burden of HCV-related morbidity and mortality in PLHIV has become the leading cause of death. HCV can be cured in 12 weeks or less by combinations of highly effective direct-acting antivirals (DAAs), but access to these drugs is virtually non-existent in low- and middle-income countries (LMICs).

Non-sub Saharan African (non-SSA) MICs are excluded from discount programs and voluntary licenses, resulting in prices significantly higher than generics. Patent laws often do not have sufficient safeguards to enable generic access. DAA/ARV voluntary licenses restrict generic suppliers from providing treatment to over 40 MICs, including those with the highest number of people living with HIV. With the branded company as the only option, lack of competition keeps DAA prices out of reach for non-SSA MICs, whose governments are unable to fund treatment at the high branded prices.

Description: This presentation will discuss the coordinated global legal effort to challenge patents on key DAAs, with a special focus on Sovaldi, known by its generic name sofosbuvir. This case study will share the scientific and legal basis for patent challenges, raise important questions about innovation and access, explain civil society’s rationale and process for challenging patents, showcase new impact analysis and conclude with recommendations for the way forward.

Lessons learned:
1) Utilizing patent challenges as strategy to address treatment gap has proven successful
2) Community networks have significant capacity to take patent work forward
3) Government intervention is a necessary parallel strategy to curtailing the problem of drug pricing in developed and developing countries

Conclusions/Next steps:
1) Simultaneous coordinated patent challenges is the most effective strategy to combat the exclusion of MICs from access programs and voluntary licenses, which increases pressure on pharmaceutical companies, but also strengthens the position of country patent offices and governments in addressing patents and public health.
2) Only by challenging these patents, through stronger patent examination and patent challenges, can there be real change in addressing the challenges facing the current patent system and public health.

FRAD0205
ACCESS TO ANTIVIRAL DRUGS FOR TREATING HCV FOR HIV-POSITIVE PATIENTS IN RUSSIA: RESULTS AND RECOMMENDATIONS OF THE REGISTRATION, POLICY AND PROCUREMENT ANALYSIS
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Background: The number of people with HIV in Russia is 5 million based on expert estimates. At least 200,000 people are co-infected with HIV and HCV. Treatment of chronic hepatitis C should be provided free of charge for the HIV/HCV co-infected patients within the framework of the national programme for HIV, HCV and HBV. Treatment Preparedness Coalition2 analyzed the regulatory framework and data on the procurement of HCV drugs to understand the scope and nature of HCV treatment provided for HIV/HCV coinfected people.

Methods: We used the data of the website grls.r n o m i n z d r a v . r u to identify HCV drugs registered in Russia (December 2015). Then, we compared the results with the list of drugs in the decree on financing the procurement of HIV/HCV/HBV drugs (Decree No 1438). Then, we analyzed 850 contracts for HCV drugs concluded in 2015. The analysis included 3 non-proprietary names of pegylated interferon (PEG-IFN) and 4 non-proprietary names of antiviral drugs (DAAs). The number of patients was calculated by diving the total amount of items purchased by the recommended daily dose and treatment duration.

Results: In 2015, the following DAAs were registered in Russia: simeprevir; daclatasvir; asunaprevir; paritaprevir/ritonavir, dasabuvir, ombitasvir; telaprevir; and boceprevir. 3 international non-proprietary names of PEG-IFN were registered (December 2015): PEG-IFN alpha-2a, PEG-IFN alpha-2b and Ce-PEG-IFN alpha-2b. The list of drugs in Decree No 1438 included only the three pegylated interferons. The other drugs were purchased using funds allocated for other groups of patients, including monoinfected patients.

In total, approximately 600 patients could receive interferon-free therapy. The total number of patients who could receive DAA based therapy with interferon, including interferon-free therapy, is approximately 1000. The price for the treatment course of DAAs is in the range of 10,000 - 12,000 USD. The number of patients receiving pegylated interferon is in the range of 4500-9000 (depending on the treatment duration).

Conclusions: The majority of HIV/HCV coinfected patients still receive PEG-IFN-based therapy. In our opinion, this is mostly due to high price of DAAs. Some preferred options for treating HCV are still not registered in Russia, including sofosbuvir and sofosbuvir/ledipasvir. None of the DAAs are included in Decree No 1438.
Between 2001 and 2005, procurement of LOP/r surpassed EFV in terms of costs.

Results:

- 20 interviews with key informants.
- First-hand empirical data collected in 2012/15, including governmental documents.

Methods:

- Study compares the price negotiations of LOP/r and EFV, as well as the underlying mechanisms that may explain the decision to grant CL for EFV but not for LOP/r.
- The study examines the price negotiations of patented drugs with multinational pharmaceutical companies and, for the first time in Latin America, launched compulsory licensing (CL).
- This study compares the price negotiations of LOP/r and EFV, as well as the underlying mechanisms that may explain the decision to grant CL for EFV but not for LOP/r.

Conclusions:

- The results show that civil society support has been key in price negotiations and that cooperation between local manufacturers may foster new opportunities for generic ARVs development.

FRAEO102

GOOD ADHERENCE IN TRIAL OF TOPICAL PRE-EXPOSURE PROPHYLAXIS INTEGRATED INTO FAMILY PLANNING SERVICES

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Background:

- Evidence guiding scale-up of pre-exposure prophylaxis (PrEP) in African women is required for implementation of new WHO guidelines. The CAPRISA 008 trial, which provided participants from CAPRISA 004 with post-trial access to tenofovir gel, assessed adherence and effectiveness of PrEP provision integrated into family planning (FP) services.

Methods:

- CAPRISA 008 was a 36-month, two-arm, open-label, randomized controlled, non-inferiority trial. Eligible women (n=372) were randomly assigned to receive tenofovir gel at clinical trial clinics (n=183) or at FP clinics (n=189). Adherence, retention, HIV incidence and service preference were assessed.

Results:

- At baseline, women assigned to trial and FP clinics were similar and study retention rates were 92.3% and 92.1% respectively. Adherence (% reported sex acts covered by 2 gel doses) was 73.9% (95% confidence interval (CI): 70.7-77.1) in trial clinics and 79.9% (CI: 70.6-82.2) in FP clinics. Higher adherence (mean difference 6.0% (CI: 1.5-10.6)) in FP clinics met the pre-defined non-inferiority criteria. Mean monthly sex acts and returned empty applicators were 4.5 (CI: 4.0-5.0) and 6.0 (CI: 5.5-6.5) in trial clinics compared to 3.6 (CI: 3.2-4.1) and 5.2 (CI: 4.7-5.7) in FP clinics respectively. Genital tenofovir was detected at one year in 68/156 women (43.6%; CI: 36.1-51.4) at trial clinics and 62/157 women (39.5%; CI: 32.2-47.3) at FP clinics.

Conclusions:

- Integration of topical PrEP into FP services for African women is feasible, acceptable and achieves adherence equivalent to a clinical trial setting, providing evidence for PrEP scale-up using this strategy for this challenging high-priority population.
FRAEO 103
EXPERIENCES OF PREP DISCONTINUATION IN AFRICAN HIV SERODISCORDANT COUPLES: QUALITATIVE RESULTS FROM THE PARTNERS DEMONSTRATION PROJECT

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Background: Public health programs worldwide are considering new WHO guidelines recommending antiretrovirals (ART) as pre-exposure prophylaxis (PrEP) for all individuals at substantial risk for HIV. Unlike ART, PrEP is taken by uninfected individuals during limited periods of high risk exposure, and discontinued when transmission risk is reduced. Understanding user experiences of PrEP uptake and discontinuation will inform future implementation efforts. Using qualitative data from the Kampala, Uganda site of the Partners Demonstration Project, we describe user preferences for PrEP use and discontinuation.

Methods: The Partners Demonstration Project was a prospective implementation study that evaluated an integrated strategy for delivering PrEP and ART to HIV serodiscordant couples. HIV-uninfected partners discontinued PrEP when ART had been taken by infected partners for six months. In-depth interviews were conducted with 48 serodiscordant couples from the Project. Interview topics included understandings of PrEP, adherence, and experiences of PrEP use and discontinuation. Interviews were inductively analyzed to identify themes reflecting PrEP use and discontinuation. Categories representing themes were developed and organized sequentially to describe user preferences for discontinuing PrEP.

Results: Initially, participants expressed doubts about taking PrEP. However, as PrEP use became routine, users gained confidence in PrEP’s capacity to protect them against HIV infection. PrEP gave uninfected individuals a newfound sense of control over their prevention methods, and ultimately, their health. When PrEP was discontinued, some users felt once again vulnerable to HIV acquisition. Reasons for this heightened sense of risk included lack of confidence in ART to prevent transmission, doubts about partners’ adherence to ART and fear of risk through unprotected sex outside the partnered relationship. Most users preferred to remain on PrEP or be given the opportunity to reinitiate PrEP in the future.

Conclusions: Uninfected partners in HIV serodiscordant relationships offered PrEP as part of an integrated PrEP and ART delivery strategy preferred to exercise control over their prevention choices. Resistance to discontinuing PrEP may present a challenge to efficient and effective implementation of PrEP in public health settings of resource scarcity. Messaging about PrEP discontinuation should include explanations of how ART prevents HIV transmission after PrEP is discontinued, while also addressing user concerns about risk.

FRAEO 104
ELIMINATING BARRIERS TO INCREASE UPTAKE OF PREP IN A COMMUNITY-BASED CLINIC IN SAN FRANCISCO

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Background: The US Food and Drug Administration approved Pre-Exposure Prophylaxis (PrEP) for HIV prevention in July 2012. As demand for PrEP increased in San Francisco, barriers to access surfaced: lack of provider knowledge of PrEP, finding a culturally competent provider, issuance of same-day prescriptions, and coverage of laboratory and medication costs. San Francisco AIDS Foundation (SFAF) launched a PrEP program in 2014 to address barriers, increase access, and reduce new HIV infections among MSM.

Description: The program, led by Nurse Practitioners, leverages Registered Nurses and volunteer HIV test counselors (HTC) trained to provide culturally competent care. Clients self-refer or are referred by HTC. NPs perform a full medical evaluation and PrEP counseling, addressing adherence and stigma. Utilizing point-of-care HIV and chemistry testing, clients initiate PrEP the same-day. Follow-up visits are conducted by RNs, providing ongoing PrEP and adherence counseling. Abnormal lab results are referred to the NP for evaluation. MDs are available for consultation as needed.

Benefits: Navigators work with medically eligible clients to access PrEP through applying for full-assistance programs, activating copay cards, and initiating health insurance. Navigators interface with insurance companies when clients are met with barriers. There is no cost for the lab work and evaluation services. With the available benefit programs, most clients obtain PrEP at no or very low cost.

Lessons learned: Between November 2014 and January 2016, 797 participants enrolled in the program and 95% received a prescription for Truvada. 89% reported condomless anal sex in the past 12-months. 69% were Caucasian, 22% Latino/Hispanic, 6% African-American, and 11% Asian/Pacific Islander. Mean age was 34.4 years. 25% were treated for an STI at enrollment.

There were no new HIV infections among participants in the PrEP program. Comparatively, the clinic diagnosed 54 new HIV infections among men not enrolled in the program during the same time period.

Conclusions/Next steps: A community-based organization, led by NPs, RNs, benefit navigators, and HTCs can determine if clients are medically eligible to begin PrEP, assist with identifying and addressing barriers to accessing PrEP so clients can safely initiate medication the same-day, contributing to fewer HIV diagnoses among MSM in San Francisco.

FRAEO 105
EXPANDED PREP IMPLEMENTATION IN COMMUNITIES IN NSW, AUSTRALIA (EPIC-NSW): EVIDENCE-BASED IMPLEMENTATION STUDY

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Background: In New South Wales (NSW) Australia, the new HIV Strategy 2016-20 aims to virtually eliminate HIV transmission by 2020 and HIV pre-exposure prophylaxis (PrEP) is identified as a key tool. A partnership of key NSW government, community, medical and research organisations has taken an innovative approach to rapid scale-out of PrEP implementation and evaluating the strategy. We describe PrEP implementation issues, innovative solutions and evidence-based design of the NSW PrEP implementation study.

Description: The number of people meeting the PrEP-eligibility risk criteria, defined in the existing NSW PrEP guidelines, was estimated using data from previous Australia studies to be 3700. Calculations of HIV transmission probability by behavioural risk factor estimated that new HIV diagnoses in NSW would be reduced by ~50% in 12 months by preventing infection in these people with PrEP. The NSW partnership designed the Expanded PrEP implementation in Communities in NSW (EPIC-NSW) study which aims to provide PrEP to all 3700 people and evaluate PrEP implementation within the new HIV strategy. The study features:

1) large-scale, rapid roll-out (March–September 2016),
2) real-life implementation (service procedures per guidelines),
3) innovative data collection with minimal burden on health services (extraction and ongoing linkage of data from clinical data collection systems),
4) cumulative follow-up of 7400 person-years,
5) assessment of the trial impact on HIV incidence in the cohort and the general population.

We will report on EPIC-NSW design features and roll-out and estimated impact on HIV incidence.

Lessons learned: Mobilisation and partnership of the entire HIV sector is crucial for rapid PrEP roll-out and beneficial for establishing access to PrEP. An evidence-based approach, community mobilisation and creative use of available data sources enable efficient and effective implementation and evaluation of public health strategies.

Conclusions/Next steps: EPIC-NSW is the only PrEP implementation trial internationally aimed at monitoring PrEP impact at the population level. Data from this study will evaluate the state HIV prevention strategy and PrEP contribution in reaching the goal of virtually eliminating HIV by 2020. The design and results of this trial will inform policy, investment, community education and interventions in other similar settings internationally.
FRAE0106LB
OPTIMIZING THE FREQUENCY OF KIDNEY SAFETY MONITORING IN HIV-UNINFECTED PERSONS USING DAILY ORAL TENOFURO DISOPROXIL FUMARATE PRE-EXPOSURE PROPHYLAXIS

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Background: Optimal kidney safety monitoring is a key knowledge gap for wide-scale implementation of tenofovir-based pre-exposure prophylaxis (PrEP) for HIV prevention. We compared 6-monthly to 3-monthly kidney monitoring for the occurrence of clinically relevant decline in creatinine clearance (CrCl; < 60 mL/minute).

Methods: Data were from two prospective PrEP studies in Kenya and Uganda: the Partners Demonstration Project (n=955), a recently completed open-label study that used 6-monthly serum creatinine monitoring to estimate creatinine clearance, and the Partners PrEP Study, a placebo-controlled trial that used 3-monthly monitoring (n=4404 receiving PrEP, n=1573 receiving placebo). CrCl ≥60 mL/minute was required for enrollment in both studies.

Results: With 6-monthly monitoring, the cumulative proportion of participants with unconfirmed CrCl < 60 mL/minute was 0.7% at Month 6 and 1.5% at Month 12, affecting 10 (1%) participants; 2 of these (0.2%) overall had CrCl < 60 mL/minute confirmed on repeat testing (cumulative proportion: 16 [0.4%], 21 [0.5%], and 0.7% at Months 3, 6, and 12, respectively). The corresponding cumulative frequency of confirmed CrCl < 60 mL/minute in the placebo group was 0.3% at Month 3 and 0.3% at Month 6. Of the 29 participants experiencing confirmed declines in the Partners PrEP Study, 28 (97%) had baseline CrCl 60-90 mL/minute, 19 (66%) were aged ≥45 years, and 16 (55%) had baseline weight ≤55 kg (adjusted p< 0.05).

Conclusions: In these two large cohorts of HIV-uninfected persons using PrEP, the occurrence and pattern of clinically relevant decline in CrCl were not qualitatively different based on 3 or 6-monthly CrCl monitoring. Most measurements of CrCl < 60 mL/minute did not confirm on repeat testing. These data suggest that 6-monthly CrCl monitoring could be equally safe and require fewer resources for a majority of persons receiving PrEP, with more frequent monitoring potentially indicated for those with specific risk factors (older age, lower baseline CrCl, lower weight).

FRAE02 DIFFERENTIATED CARE: FINDING THE BEST FIT

FRAE0201
SIX-MONTHLY APPOINTMENTS AS A STRATEGY FOR STABLE ANTIRETROVIRAL THERAPY PATIENTS: EVIDENCE OF ITS EFFECTIVENESS FROM SEVEN YEARS OF EXPERIENCE IN A MÉDECINS SANS FRONTIÈRES SUPPORTED PROGRAMME IN CHIRADZULU DISTRICT, MALAWI

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Background: HIV clinics are struggling to absorb new patients in Malawi, and overburdened health workers and long working hours can be detrimental to adherence. We evaluated a strategy of six-monthly appointments (SMA) for stable ART patients in Chiradzulu District, Malawi, where Médecins sans Frontières is supporting the Ministry of Health's HIV programme.

Methods: Stable patients (aged ≥15, on first-line ART ≥12 months, CD4 count ≥300 and without opportunistic infections or ART intolerance, not pregnant or breastfeeding) were eligible for clinical assessments every 6 months instead of 1-2 months at 11 HIV clinics. Early SMA enrolees were defined as patients who started SMA within 6 months of eligibility, late SMA enrolees were those starting >6 months after eligibility.

Kaplan-Meier methods were used to calculate cumulative probabilities of death and loss to follow-up (LTFU) among those eligible for SMA, stratifying by SMA enrolment status and baseline characteristics. Cox regression, using SMA enrolment as a time-dependent variable, was used to estimate crude and adjusted hazard ratios for the association between SMA and death or LTFU.

Results: Between 2008 and 2015, 18,957 individuals were eligible for SMA (contributing 43,888 person-years of observation), of whom 15,308 (80.8%) ever enrolled. Median time from SMA eligibility to enrolment was 6 months (interquartile range 0-17 months). The cumulative probability of death or loss to follow-up five years after first SMA eligibility was 56.3% (95% CI: 52.4-60.2%) among those never SMA enrolled, 13.9% (95% CI: 12.5-15.6%) among early SMA enrollees and 8.1% (95% CI 7.2-9.0%) among late SMA enrollees.

After adjusting for age, gender, year of first SMA eligibility, and other baseline variables (CD4 count, months on ART and in cohort), a significantly higher rate of death or LTFU was observed among patients during non-SMA periods compared to those during SMA periods (adjusted rate ratio: 1.87, 95% CI 1.68-2.08, p< 0.001).

Conclusions: SMA represents a promising strategy for managing stable ART patients and should be rolled out, particularly with “test and treat” on the horizon, which will further stretch HIV clinics. However, further implementation research is needed, and selection biases which may explain poor retention among those eligible but never SMA-enrolled should be investigated.

FRAE0202
IMPROVED SURVIVAL AND RETENTION IN HIV TREATMENT AND CARE: THE VALUE OF COMMUNITY ART GROUPS FOR HIV PATIENTS ON ART IN RURAL NORTHERN MOZAMBIQUE

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Background: Community ART Groups (CAG) allow patients to pick up medication on a rotational basis and have been implemented as a strategy to improve adherence of HIV-positive patients on combination antiretroviral therapy (ART) in Mozambique. Participation in a CAG is voluntary but guided by inclusion criteria. The purpose of this analysis was to report on the characteristics and joining of a CAG, and to examine the benefit of CAGs on mortality and loss to follow-up (LTFU).

Methods: This observational study was conducted in Ancuabe, Mozambique. We included all HIV-positive adults (≥15 years) starting ART 2010-2015, that met the CAG eligibility criteria (non-pregnant, follow-up ≥24 months). Multivariable logistic regression was used to examine associations between joining a CAG and the baseline characteristics sex, age, WHO stage and CD4 cell count at baseline as well as the total days late for appointments within the first six months before being eligible for CAG-participation. Mortality rates and the risk of being LTFU between CAG-participants and non-participants were examined using cox proportional hazards regression, adjusted for all baseline covariates.

Results: 1306 patients were included (62.9% female) with a median CD4 cell count of 257 cells/µL [interquartile range [IQR] 149-352], a median age of 33.1 years (IQR 26.2-41.3) and a median of 23 days late within first six months (IQR 6-49). During 2866 person-years, 10.5% of patients died, 22.6% were LTFU and 13.8% joined a CAG. The odds of joining a CAG were increased by female sex (odds ratio [OR] 1.73, 95% confidence interval [CI] 1.21-2.46) and an older age (OR 1.02 95%CI 1.01-1.03); no other baseline covariate showed a significant association with CAG-participation. CAG-participation reduced the mortality rate by 55.1% (adjusted hazard ratio [AHR] 0.449, 95%CI 0.264-0.762), and the risk of being LTFU by 84.3% (AHR 0.157, 95%CI 0.086-0.288).

Conclusions: Patients that were in a CAG did not have significantly different baseline CD4 cell count or adherence to appointments in the first 6 months of treatment than those not entering a CAG, however despite this CAG-participation remarkably lowered the risk of both being LTFU and dying. These results support the implementation of CAGs in rural settings.
**FRAE0204**

**IMPLEMENTATION OF COMBINATION ART REFILLS MODELS IN RURAL SWAZILAND**

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**Background:** The WHO advocates for differentiated HIV care and considers a broad range of community-based care models for patients stable on anti-retroviral therapy (ART). These care models aim to better respond to patient needs and to alleviate pressure on health systems caused by rapidly growing patient numbers. Most settings, however, utilized a single community-based care model only. We operationalize a combination of community ART care models in public health sector and assessed early outcomes.

**Methods:** Three community ART delivery care models were deployed in the rural Shiselweni region (Swaziland), from 02/2015 to 12/2015. First, Treatment Clubs (TC) are groups of 30 patients stable on ART who meet every 3 months at a second health facility for consultation and pick up drugs for the other group members. Second, Community ART Groups (CAG) comprise a maximum of 6 patients who alternate to attend the primary health facility for consultation and pick up drugs for the other group members. Third, Comprehensive Outreach Care (COC) integrates drug refills into existing mobile clinic outreach activities for geographically isolated communities. We described baseline factors at enrolment and 6-month retention in community care models and proportion of patients transferred back to routine clinical care.

**Results:** On average, 47 patients enrolled into community-ART care each month: 51.1% into TC (242 patients in 8 groups), 34.0% in CAG (164 patients in 38 groups) and 14.9% in COC (65 patients in 2 remote communities). All patients had a V3+1 1,000 copies/ml, the median CD4 was 512 (TC), 528 (CAG) and 657 (COC) cells/µl (p=0.07), the median age was 40 and 40 years (p=0.11), and 74.8%, 66.5% and 64.6% were females (p=0.03); Retention in care after 6 months was highest in TC (97.5%) when compared to CAG (79.2%) and COC (78.4%) (p=0.01). 53/471 patients (11.3%) returned back to and were retained in routine clinical care and one (0.2%) was recorded as death in COC.

**Conclusions:** Concurrent implementation of three community ART care models was feasible. Although a proportion of patients returned back to clinic care, overall ART retention was high and should encourage program managers to apply differentiated care models adapted to their specific setting.

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**FRAE0203**

**SEARCH STREAMLINED HIV CARE IS ASSOCIATED WITH SHORTER WAIT TIMES BEFORE AND DURING PATIENT VISITS IN UGANDAN AND KENYAN HIV CLINICS**


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**Background:** Long patient wait time is reported as an operational barrier to retention in HIV care in resource limited settings. Patients may perceive waiting several months shorter both before and during visits. Time spent receiving health education and ART, including those with high CD4 cell counts, under streamlined HIV care

**Methods:** Consistent differences in patient wait time before and during clinic visits conducted under “streamlined” and standard government HIV clinic care. Components of streamlined HIV care aimed at reducing wait time included: (1) nurse-driven triage for patient evaluation; (2) 3-month ART refills (vs. 1 or 2 month) for stable patients; and (3) consolidation of services at encounters (ART, phlebotomy, medication dispensing).

**Results:** We examined differences in patient visit time before and during clinic visits conducted under “streamlined” and standard government HIV care delivery model in government supported clinics that aims to reduce wait times to address this problem. We evaluated whether: (1) clinic visit duration and during patient visits in Ugandan and Kenyan communities is implementing a “streamlined” HIV care delivery model in government supported clinics that aims to reduce wait times; (2) consolidation of services at encounter (ART, phlebotomy, medication dispensing); (3) 3-month ART refills (vs. 1 or 2 month) for stable patients; and (3) consolidation of services at encounters (ART, phlebotomy, medication dispensing).

**Conclusions:** Streamlined HIV care delivery led to shortened wait times both before and during HIV clinic visits. These efficiency improvements may contribute towards improved retention in HIV care.

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**FRAE0205**

**PROVISION OF STREAMLINED HIV CARE ASSOCIATED WITH REDUCED ECONOMIC BURDEN OF CARE-SEEKING AMONG HIV-INFECTED ADULTS**

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**Background:** HIV-infected adults and their households often face a large economic burden stemming from out-of-pocket health expenditures, clinic transportation costs, and lost from work or usual household activities. In Kenya and Ugandan communities that began receiving streamlined HIV care (appointment reminders, quarterly visits with patient-centered care providing reduced waiting and overall visit duration) as part of the SEARCH test-and-treat trial, we examined changes in costs incurred by HIV-infected adults over a one year period.

**Methods:** Data were obtained through household surveys administered to a random sample of HIV-infected adults in 32 communities participating in the SEARCH trial (NCT01864603). In the 16 SEARCH intervention communities employing streamlined HIV care, we compared out-of-pocket costs (in US$) and time costs incurred by HIV-infected patients receiving antiretroviral therapy (ART) under standard HIV care at baseline (n=1,230) to costs incurred by a larger sample of patients receiving ART, including those with high CD4 cell counts, under streamlined HIV care one year later (n=1,589). We also examined changes in these costs separately in the three regions of Kenya and Uganda where the SEARCH trial is occurring. Comparison of means was performed using two-sided t-tests.
Results: Patients receiving ART under streamlined care spent less than half the time seeking and receiving healthcare than adults receiving ART under standard care (4.40 hours per month at baseline vs. 1.78 hours per month at follow-up, p<0.001). Time spent away from employment or usual activities was also significantly reduced, from 13.0 hours per month at baseline to 8.17 hours at follow-up (p<0.01). The reductions in time costs were largest in SEARCH intervention communities in Uganda compared to Kenya. Out-of-pocket healthcare and transportation costs incurred by patients did not differ significantly between baseline and one year later ($2.98 and $2.46 in past month at baseline and one year, respectively).

Conclusions: Following the introduction of streamlined care for HIV-infected individuals, there was a significant reduction in time spent seeking healthcare and being away from employment and other usual activities. Streamlined care provision may partially reduce the economic burden faced by individuals receiving HIV care and contribute to improvements in patients’ employment outcomes and economic well-being.

FRAE0206LB
DISCONTINUATION FROM COMMUNITY-BASED ANTIRETROVIRAL ADHERENCE CLUBS IN GUGULETHU, CAPE TOWN, SOUTH AFRICA

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Background: Community-based adherence clubs are an attractive model of care for the growing number of stable patients on antiretroviral therapy (ART) in high-burden settings, but little is known about the reasons patients exit these clubs over time.

Methods: We used routinely-collected club data linked to a large primary health-care (PHC) clinic. These clubs enrol stable ART patients (>6-12 months on ART with viral suppression and CD4+>200) into a lay-counsellor-led programme of 2-4 monthly ART collection, with adherence support, at a community venue. Viral load (VL) monitoring is conducted annually. In analysis, we examined reasons for discontinuation from clubs over time, while proportional hazards models were used to examine risk factors for lost to follow-up (LTF), defined as >6 months without a club visit before the end of November 2015 without an alternate outcome.

Results: Between June 2012 and October 2015, 3359 patients entered a club (median age, 37 years; 71% female; median duration of ART use, 3.5 years). 4% of all club visits resulted in a referral of patients by counsellors back to the PHC for review by a nurse or doctor; these were usually due to a clinical comorbidity (primarily TB, diabetes or hypertension), defaulting ART, or elevated VL. Rates of death, transfer out, and LTF from the clubs were 0.3, 0.9, and 9.4 per 100 person-years in the clubs, respectively. After three years of club operations, 26% of patients were LTF; independent of gender, LTF was increased in patients <25 years of age (hazard ratio, 1.7; 95% CI: 1.2-2.5). In the subset of patients who had VL monitoring, prior raised VL in the clubs was strongly predictive of subsequent LTF (HR, 4.4; 95% CI: 2.9-6.7). There was no association between time on ART before entry into clubs and either referral back to clinic or LTF (p=0.921).

Conclusions: Referrals of stable ART patients from counsellor-led, community-based adherence clubs back to PHC are an important feature of community-based care, and expanding this model of care to include common co-morbidities may reduce these referrals. While the majority of patients are retained effectively in clubs, LTF is an ongoing concern.
LATE BREAKER POSTERS

**LBEPO01**  
**WHOLE-BODY SPECT IN VIVO IMAGING REVEALS DELAYED RECONSTITUTION OF LYMPH-NODES, BUT NOT SPLEEN, CD4 POS IN LONG-TERM CART TREATED ANIMALS**

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**Background:** Fewer than 2% of the total-body pool of CD4+ T lymphocytes reside in the peripheral-blood (PB) highlighting the need for techniques that provide a more comprehensive evaluation of the immune system. In previous work we demonstrated the feasibility of imaging the total-body-CD4 pool in nonhuman-primates and noted that the CD4 pool of splenic lymphocytes may increase or decrease by up to 30% within 4 weeks of initiation or interruption of cART, respectively. The present study was designed to more carefully delineate the relationships between viremia, PB CD4-count and total-body-CD4 pool.

**Methods:** A group of 30 rhesus macaques (uninfected and SIV/SHIV infected with PB CD4 pool range (7-1718) cells/µl) were subjected to a total of 59 SPECT imaging studies, using the F(18)2 fragment of anti-CD4 labeled with Tc-99m. Six of the SIV-infected animals had been treated with cART for more than 5 months with SIV RNA levels < 30 copies/ml in 5 animals and 950 copies in the other. Linear mixed-effect models with random intercepts were used for longitudinal analyses.

**Results:** A repeated measurements univariate analysis of all animals revealed that both PB-CD4-count and plasma-viral-load were significantly associated with the size of the splenic CD4 pool (P< 0.001). The PB-CD4-count was also univariately associated with the size of the CD4 pool of the axillary, inguinal and sub-mandibular lymph-nodes (all P< 0.01). Only the size of the sub-mandibular pool was also associated with plasma-viral-load (P=0.04). In a multivariate analysis, adjusting for the PB-CD4-count, only the size of the splenic CD4 pool remained associated with the plasma-viral-load (P<0.01).

Compared to healthy controls (n=11, mean PB-CD4 count 962 95%C.I. (773-1151) cells/µl), long-term cART-treated animals (n=6, 691 95%C.I. (235-1147) cells/µl) had compared to healthy-controls. healthy-controls. progressor phenotype were observed to be two-fold higher than the average of

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**LBEPO02**  
**A NONHUMAN PRIMATE MODEL OF FULLY MHCMATCHED ALLOGENIC STEM CELL TRANSPLANTATION TO STUDY HIV RESERVOIR CLEARANCE**

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**Background:** TRIM restricts Human Immunodeficiency Virus type-1 (HIV-1) in a species-specific manner by uncoating viral particles while activating innate responses. The interactions of TRIMs with the incoming viral capsid and the cellular proteosome led us to hypothesise a role for TRIMs in the modulation of CD8+ T-cell recognition of HIV-1 infected cells. In this study, we analyse whether the expression of non-human TRIMs orthologs, Rhesus TRIM5a (RhT5) and TRIM-Cyclophilin A (TCyp), potent restrictors of HIV-1, could enhance immune recognition of infected cells by CD8+ T cells.

**Methods:** We developed a model of RhT5 and TCyp expressing cells using the US37-D270S cell line. We co-culture RhT5, TCyp expressing cells infected with HIV-1 with HLA-matched virus specific-CD8+ T-cells. After 20h of co-culture, we measured CD8+ T-cell mediated inhibition and killing of HIV-1 infected cells. We performed similar co-culture experiments in the presence or absence of a TRIMs antagonist and quantified CD107a/MIP1B secretion in CD8+ T-cells a marker of antigen recognition of HIV-1 infected cells. In addition, we determine viral uptake by p24 intracellular staining and virus-proteome contacts by immunofluorescence in RhT5 and TCyp expressing cells infected with HIV-1.

**Results:** Our data reveal that TRIMs enhance CD8+ T-cell antiviral activity (TCyp: p=0.003 and RhT5: p=0.003) and killing (TCyp: p=0.013 and RhT5: p=0.0007) of HIV-1 infected cells. In addition, TRIMs blocking experiments show a reduction of HIV-1 specific CD8+ T-cell activation (RhT5: p=0.002 and TCyp: p=0.018) that indicates the direct effect of TRIMs expression in HIV-1 infected cells on CD8+ T-cell activation. Moreover, the induction of CD8+ T-cell responses in HIV-1 infected cells was stronger for the RhT5 variants and those CD8+ T-cells recognising the viral capsid. RhT5 and TCyp expressing cells infected with HIV-1 increase viral uptake and the frequency of virus in contact with the proteosome.

**Conclusions:** These data show that RhT5 and TCyp orthologs can couple viral restriction and CD8+ T-cell activation to improve immune recognition of HIV-1 infected cells, favouring the incoming capture of the incoming virus and increasing HIV-1 contacts with the cellular proteosome. This novel mechanism could be exploited to implement future therapeutic to control HIV-1 infection.
REVERSAL OF HIV-1 LATENCY WITH MARAVIROC ALONE OR IN COMBINATION WITH BRYOSTATIN-1

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Background: A potential strategy to cure HIV-1 infection is to use latency-reversing agents (LRAs) to eliminate latent reservoirs established in memory resting CD4+ T cells (TCM). As no LRA is completely effective so far, LRA combinations are of increasing importance. Our objective is to study Maraviroc (MVC), a CCR5 inhibitor that activates the expression of NF-kB related genes, as a potential LRA in vitro and to evaluate the combination with Bryostatin-1 (Bryo), a PKC agonist known to be a potent LRA.

Methods: Latently models are based on CCL19 (29nM) or IL7 (1nM) treatment before HIV-1 infection with X4-NL4.3 or R5-Bal strains. Resting primary CD4+ T cell or central memory T cells were used. Integrated HIV-1 DNA was quantified by ALU-gag PCR. Cells were then stimulated with MVC alone (0.25-100uM) or with MVC (5uM) together with Bryo (1uM-1nM). HIV-1 replication was assessed by quantifying p24 antigen in the culture supernatant 18h post-stimulation.

Results: Latency models fulfill the criterion of increasing HIV-1 integration with minimal viral replication in the absence of stimulation (Figure 1A). Stimulation with several concentrations of MVC increased HIV-1 replication from latency and SuM was chosen for further studies. Cells were then stimulated with MVC and/or increasing concentrations of Bryo (Figure 1B). MVC was as efficient as Bryo (100nM or 10 nM) in reactivating HIV-1 although synergy could not be observed. Finally, MVC re-activated X4 and R5-HIV-1 latency in TCM with a potency similar to Bryo (Figure 1C). The combination of MVC and Bryo was antagonistic rather than synergistic in X4 infected TCM. HIV-1 reactivation reached statistical significance in IL7 but not in CCL19-based model.

Conclusions: MVC significantly activates HIV-1 replication from in vitro latently infected TCM. MVC should be regarded as a new LRA with similar efficacy to other described agents such as Bryo but a synergetic action was not found.

DISTINCTIVE GENITAL MUCOSAL IMMUNE MILIEU IN HESN NAIBORI COMMERCIAL SEX WORKERS

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Background: Women makeup roughly half of the current global HIV-1 infected population. Most human HIV infections are acquired through heterosexual transmission across female genital mucosal surfaces. Given the strategic anatomical location of genital mucosal epithelial cells (GEC) immune milieu orchestrated by TLR mediated activation of GECS can be a critical determinant of HIV-1 resistance or susceptibility. HIV-1-exposed seronegative (HESN) women have been shown to have a distinct pattern of cytokines, chemokines and antiproteases as measured in CVL samples. In this study we investigated the role that genital mucosal inflammation might be playing in imparting HIV resistance and/or susceptibility in HESN and HIV infected women.

Methods: Endocervical cytobrush samples were obtained from Pumwani CSWs cohort in Nairobi, Kenya. HESN (n=22), HIV- (n=24) and HIV+ (n=23).Cervical epithelial cells (CECs) were purified through a series of nylon membrane filtrations. Purity and viability of CECs was assessed by Ber-EP4 expression and MTS assay, respectively. CECs were cultured with or without Pan TLR ligands for 24 h. Cytokine and chemokine levels in the supernatants were determined using the Milliplex MAP multiplex kits and analyzed on the BioPlex-200 according to manufacturer’s protocol.
Antiprotease measurements were carried out using commercially available human Alpha-1-Antitrypsin and Alpha-1-Antichymotrypsin ELISA kits. Toll-like receptor expression was determined by real-time RT-PCR.

**Results:** We tested 22 cytokines and chemokines (EGF, GM-CSF, IFNα2, IFNγ, IL-1β, IL-2, IL-6, IL-7, IL-10, IL-12 (p40), IL-12(p70), IL-15, IL-17, IP-10, MCP-1, MCP-3, MDC, MIP-1α, MIP-1β, RANTES, and TNFα). GEC from HESN women expressed significantly lower levels of proinflammatory and immune activating cytokines and chemokines upon pan TLR stimulation compared to HIV-infected women. Conversely, HESN genital epithelial cells expressed significantly higher amounts of HIV-1 inhibiting chemokines (RANTES and MDC) and antiproteases. Toll-like receptor expression levels were found to be significantly lower in HESN mucosa compared to HIV-infected women.

**Conclusions:** These results highlight the role of genital inflammation in imparting HIV resistance and/or susceptibility. Data presented here support the immune quiescence model of HIV-1 protection, whereby lower target and inflammatory cell recruitment at the genital mucosal compartment reduces HIV-1 target cell numbers.

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**LBEPO08 FIELD PERFORMANCE OF POINT-OF-CARE HIV TESTING FOR EARLY INFANT DIAGNOSIS:**

**POOLED ANALYSIS FROM SIX COUNTRIES FROM THE EID CONSORTIUM**

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**Background:** The expansion of prevention of mother-to-child transmission programmes has resulted in a reduction in paediatric HIV infections. However, HIV transmissions still occur requiring accurate & timely early infant diagnosis (EID) and early treatment initiation. Evaluations of new technologies for EID are essential to inform national regulatory approval and implementation, but the low HIV incidence in infants limits timely, adequately sized evaluation studies. The EID Consortium is helping to accelerate the evaluation and subsequent implementation of EID point-of-care (POC) diagnostics across Africa; here we report on field performance of HIV qualitative assays from Alere and Cepheid in exposed infants < 18 months of age.

**Methods:** Data from 9 independent field evaluations of Alere q HIV-1/2 Detect and Cepheid Xpert HIV-1 qual assays were pooled from on-going studies in Kenya, Malawi, Mozambique, Tanzania, South Africa and Zimbabwe. A range of health professionals from nurses, doctors and laboratory technicians to medical doctors operated the devices.

**Results:** Specimens from HIV-exposed infants < 18 months old, were analysed on Alere q HIV-1/2 Detect (n=1884) and Cepheid Xpert HIV-1 qual (n=2588) and compared to Roche HIV CAPCTM at all sites with the exception of Malawi which compared to Abbott HIV m2000. Alere q achieved a sensitivity of 99.07% (95% CI, 94.88-99.95) and specificity of 99.94% (95% CI, 99.72-100.00%) with an overall error rate of 6.4%. Cepheid yielded a sensitivity of 96.88% (95% CI, 91.73-99.20%) and specificity of 99.95% (95% CI, 99.74-99.99%) with an overall error rate of 4.3% (Table 1)

**Conclusions:** The EID Consortium has been able to aggregate data from multiple centres quickly and thus accelerating notable progress in the field evaluations of POC testing for EID. The analysis shows good performance of both the Alere q HIV-1/2 Detect and Cepheid Xpert HIV-1 qual assays, suggesting that POC devices have the potential to complement the expansion of EID in the region.

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**Table 1. Performance of Alere q HIV-1/2 Detect and Cepheid Xpert HIV-1 qual**

<table>
<thead>
<tr>
<th>Device Error</th>
<th>Valid %</th>
<th>Rate</th>
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<tr>
<td>Device Error</td>
<td>128</td>
<td>4.22%</td>
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**References:**


1University of the Witwatersrand, Molecular Medicine and Haematology, Johannesburg, South Africa, 2National Health Laboratory Service, Johannesburg, South Africa, 3Loma Linda School of Public Health, Loma Linda, United States, 4University of Cape Town, Division of Medical Virology, Cape Town, South Africa, 5National Health Laboratory Service, Cape Town, South Africa, 6Institute National de Sante, Maputo, Mozambique, 7University of Cape Town, Division of Neonatal Medicine, Department of Paediatrics & Child Health, Cape Town, South Africa, 8Medecins Sans Frontieres, Epicentre, Cape Town, South Africa, 9University of Stellenbosch, Cape Town, South Africa, 10Ministry of Health and Social Welfare, National Health Laboratory, Dar-es-salaam, Tanzania, 11United Republic of, 12National Microbiology Reference Lab, Harare, Zimbabwe, 13WITS Health Consortium, Johannesburg, South Africa, 14Ministry of Health, Lilongwe, Malawi, 15University of Cape Town, Division of Epidemiology & Biostatistics, School of Public Health and Family Medicine, Cape Town, South Africa, 16Medecins Sans Frontieres, Cape Town, South Africa, 17CDC/NEAR, Kiungu, Kenya, 18National Institute of Communicable Diseases, Johannesburg, South Africa, 19University of the Witwatersrand, Emplikeni Services and Research Unit, Department of Paediatrics & Child Health, Johannesburg, South Africa, 20Clintond Health Access Initiative, Lilongwe, Malawi

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Background: There are growing numbers of perinatally HIV-infected (PHIV+) adolescents across Africa and widespread concern regarding their psychosocial well-being. Few studies have investigated mental health and social/emotional impairment in African PHIV+ adolescents, and fewer studies have included local HIV-uninfected comparator groups. We examined these constructs in the Cape Town Adolescent Antiretroviral Cohort (CTAAC).

Methods: This cross-sectional analysis included 474 PHIV+ adolescents (eligibility: ages 9-14 years, on ART for >6 months) and 103 HIV- controls. The Beck Youth Inventory (BYI-II), assessing Depression, Anxiety, Anger, Disruptive Behavior, and Self-Concept was administered. Scores were standardized using age- and sex-adjusted norms. Wilcoxon rank sum tests were used to compare scores between PHIV+ and HIV- adolescents; linear regression was used to investigate variables associated with higher scores on each subscale.

Results: The mean age was 12.5 and 12.3 years in PHIV+ and HIV- adolescents, with 50% and 46% being male, respectively. The median age at ART initiation was 4.4 years (IQR, 2.0-7.6). The reliability of the BYI-II was high across subscales (Cronbach’s alphas, 0.86-0.91). Mean scores for PHIV+ vs HIV- groups were 40.6 vs 42.5 for depression (p=0.039); 42.3 vs 45.6 for anxiety (p=0.003); and 37.1 vs 38.4 for anger (p=0.107); no differences were observed for disruptive behavior and self-concept. After adjusting for demographic factors, PHIV+ adolescents scored lower, on average, on subscales for depression (β: -2.27, 95%CI: -4.11, -0.44), anxiety (β: -4.05, 95%CI: -6.29, -1.82), and anger (β: -1.87, 95%CI: -3.52, -0.22), compared with HIV- controls; the associations with depression and anxiety persisted when restricted to older children (ages 12-15). There was little variation in scores by age at ART initiation or current use of protease inhibitors; however, current use of efavirenz was weakly associated with disruptive behavior scores after adjustment for demographic and clinical factors. Higher current grade in school was strongly predictive of poorer disruptive behavior scores.

Conclusions: Overall, PHIV+ adolescents do not appear to have poorer social/emo- tional functioning than their HIV-counterparts in this setting. The absence of associa- tions with clinical factors suggests that social/emotional outcomes may be more influenced by contextual factors. The implications and consistency of these findings into adulthood require ongoing attention.

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LBPE011

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Background: Very early treatment of HIV-infected neonates may sufficiently limit HIV reservoirs to enable HIV remission after cessation of combination antiretroviral therapy (cART). However, there are limited data on therapeutic concentrations of antiretroviral drugs approved for neonatal use.

Methods: IMPAACT P1115 is an ongoing multinational trial investigating very early cART and HIV remission in infected neonates. Pharmacokinetic (PK) modeling from prior neonatal NVP prophylaxis data suggested that NVP dosing of 6 mg/kg/dose twice daily (BID) would maintain concentrations between 3-10 mcg/mL, the established therapeutic range. Zidovudine+lamivudine+NVP were initiated at < 48 hours of age in neonates of HIV-infected mothers untreated during pregnancy, before determination of infant infection status. Single PK samples from 1-2 weeks of age on study were assayed for NVP concentrations using high performance liquid chromatography. Plasma NVP exposures and safety were examined among enrolled neonates ≥37 weeks gestational age.

Results: 30 neonates (median gestation 38 weeks) were studied; 20 boys/10 girls from Africa (n=24), South America (n=3), North America (n=2) and Asia (1). cART started on the day of birth in 19, and 2/3 were HIV-infected. Four participants had toxicities ≥Grade 2 at least possibly related to cART: 1 Grade 2 ANC; 1 Grade 2 and 1 Grade 4 hemoglobin; 1 Grade 2 ANC + hemoglobin. No rashes or elevated transaminases occurred. Mean (SD) plasma NVP concentration was 9.2 (5.6) mcg/mL at Week 1 (n=28) and 4.9 (3.6) at Week 2 (n=7). (Figure) Overall, 83% of samples were ≥3.0 mcg/mL; while 43% of Week 1 NVP levels were >10mcg/mL, most were ≤15 mcg/mL.

Conclusions: Therapeutic NVP dosing of 6 mg/kg/dose BID in full-term newborns appears to be safe and maintains NVP concentrations ≥3 mcg/mL during the first 2 weeks of life in the majority of infants. These data support the continued study of this NVP dosing regimen to treat neonates.

LBPE012

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Background: For people living with HIV (PLH), alcohol use disorders (AUDs) are associated with poor immunologic and virologic outcomes. Prisoners with HIV lose HIV VL suppression they gained while incarcerated within 3 months post-release. We aimed to see if the use of extended-release naltrexone (XR-NTX), an effective treatment for AUDs, could maintain and/or improve rates of VLS for PLH with AUDs after they are released from prison.

Methods: This is a double-blind placebo-controlled randomized trial of XR-NTX (randomized 2:1, XR-NTX: placebo) conducted among HIV+ prisoners with AUDs who were released to the community in Connecticut, U.S.A. Participants were administered 6 monthly injections given 1-2 weeks prior to release and monthly thereafter for 5 months post-release. The primary outcome was sustained virologic suppression at 6 months at < 400 copies/mL with additional secondary outcomes of proportion with VLS at < 200 and < 50.

Results: A total of 100 participants were randomized 2:1 (N=67 XR-NTX; N=33 Placebo). Baseline demographics were: 21% women, 37% homeless, 65% Black/African American, mean incarceration time period of 13 months, 50% with chronic HCV, 86% prescribed ART, and 90% with a CD4 ≥200. There was a statistically significant greater mean proportion of persons who had a VL UD at baseline who maintained a VL UD at 6 months in the XR-NTX group as compared to the placebo group at < 50 copies/mL and < 200 copies/mL value, but not at the < 400 copies/mL value (see Table 1).

Viral Load (Copies/mL) by Treatment Arm

<table>
<thead>
<tr>
<th>Viral Load (Copies/mL)</th>
<th>Baseline (%)</th>
<th>6 months (%)</th>
<th>Mean of the Differences</th>
<th>95% Confidence Interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50 XR-NTX, Placebo</td>
<td>36, 48</td>
<td>50, 34</td>
<td>0.212</td>
<td>0.740, 0.349</td>
<td>0.003*</td>
</tr>
<tr>
<td>&lt;200 XR-NTX, Placebo</td>
<td>53, 72</td>
<td>55, 34</td>
<td>0.176</td>
<td>0.043, 0.31</td>
<td>0.013*</td>
</tr>
<tr>
<td>&lt;400 XR-NTX, Placebo</td>
<td>70, 72</td>
<td>63, 41</td>
<td>0.11</td>
<td>-0.027, 0.239</td>
<td>0.118</td>
</tr>
</tbody>
</table>

*Table 1: Comparisons of Percentages of VL suppression from baseline to 6 months by treatment arm based on results of T Test analyses*

Conclusions: Preliminary results from this RCT show that XR-NTX may help maintain VL suppression and/or improve to achieve VL suppression as HIV+ prisoners transition to the community, thus a potential intervention to improve the HIV continuum of care for PLH with AUDs involved in the CJ system.
Background: BF is crucial to reducing infant morbidity and mortality but may result in HIV transmission if the mother is HIV-infected. Both mART and iNPV are effective in preventing postnatal HIV transmission. PROMISE is the first randomized trial designed to directly compare the efficacy/safety of these two strategies during extended BF.

Methods: PROMISE was conducted in sub-Saharan Africa (13 sites) and India (1 site). HIV-infected women with CD4 counts >350 cells/mm³ (or > country-specific threshold for therapy if higher) and their HIV-uninfected newborns were randomized to BF at 6-8 days postpartum to mART or iNPV. These regimens were continued until 18 months post-delivery unless there was cessation of BF, infant HIV infection, or toxicity. Kaplan-Meier (K-M) probabilities and incidence rates per 100 person-years were used in primary analyses of efficacy/safety.

Results: 2431 mother-infant pairs were enrolled between June 2011 and October 2014. Women were asymptomatic (median CD4 count 686; 97% WHO Clinical Stage I) with median age of 26 years. Infant’s median gestational age and birthweight were 39 weeks and 2.9 kg, respectively. Baseline characteristics were comparable by study arm. Median duration of BF was 15 months and not significantly different by study arm (p=0.85). K-M estimates of MTCT of HIV at ages 6, 9 and 12 months were 0.3% (95% CI 0.1-0.6), 0.5% (95% CI 0.2-0.8) and 0.6% (95% CI 0.4-1.1), respectively, and not significantly different between the two arms. Infant 12-month survival rate was extremely high (98.9%) and not significantly different by regimen. Incidence rates of maternal/infant safety outcomes did not differ significantly by regimen (Table).
**LBEPO15**

**HIV TESTING AND ART ARE ASSOCIATED WITH LOWER HIV INCIDENCE AMONG PWID IN UKRAINE**

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**Background:** PWID remain to be in the epicenter of HIV epidemic in Ukraine, one of the most affected countries in Eastern Europe. Majority of the estimated 13,000 new annual HIV cases are occurring among PWID and their sexual partners. Large-scale HIV prevention program supported by The Global Fund and PEPFAR grew rapidly since 2004 to reach more than 210,000 PWIDs in 2014. Provision of all prevention services is recorded in the national SYREX database; records are linked by a unique client identifier.

**Methods:** For this analysis we compared results from two cohort studies - retrospective and prospective. The retrospective cohort included all PWID who received prevention services in 2011-2014; HIV serocconversion defined as a SYREX record of positive HIV test after a negative one. To address limited testing coverage, a prospective cohort of prevention clients was recruited in 2013 in 11 cities; HIV seroconversion measured by rapid testing at 6, 12, 18 months. For both studies, data on prevention services were extracted from SYREX database. City-level epidemiological and clinical service coverage variables were added to analysis. “Time-to-event” methods were used to determine impact of prevention on HIV incidence.

**Results:** Of all 366,786 unique PWID prevention clients, 50,586 (13.8%) had at least two HIV test records with first negative result, and 1,012 seroconverted (1.5%/year incidence). Of 2,157 PWID in prospective cohort, 2,052 (95.1%) completed at least one follow-up with 52 seroconversions (1.8%/year incidence).

**Conclusion:** Consistency of findings on effects of ART coverage and HIV testing in both cohorts strongly supports the recommendation to further expand these interventions in order to minimize transmission in Ukraine and other countries with HIV epidemics driven by PWID.

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**LBEPO16**

**MOTHER TO CHILD TRANSMISSION (MTCT) OF HIV IN NEW YORK STATE (NYS): FROM EPIDEMIC TO ELIMINATION**

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**Background:** NYS, once the epicenter of pediatric AIDS epidemic in the United States, has eliminated MTCT as defined by the Centers for Disease Control and Prevention (CDC). NYS began to target MTCT prevention in the early 1990s. Statewide data is now available through 2015, indicating no cases of MTCT in 2015.

**Description:** The NYS Department of Health’s AIDS Institute (AI) implemented a multi-pronged approach involving consumers, health/social services providers, birth facilities and state/local agencies. This initiative, data-driven and supported by laws/regulations/ standards of care, evolved in alignment with emerging science. A comprehensive monitoring program includes routine provision of facility-specific data to all birth facilities and on-site technical support. NYS MTCT guidelines were widely disseminated and promoted through the AI’s statewide guidelines and education programs.

**Lessons learned:** Statewide implementation of voluntary prenatal HIV testing began in 1996 after regulations were adopted to require offering of prenatal HIV testing. In 1997, a law was implemented requiring routine HIV screening of all newborns using the blood spots obtained via NYS’ Newborn Screening Program. Antiretroviral (ARV) regimens for maternal health/MTCT prevention were quickly implemented, with 98% of exposed infants having received ARV prophylaxis in one or more periods (prenatal, intrapartum, newborn) by 2001.

In 1990, 1,888 HIV-positive women gave birth. An estimated 47% (750 to 760) of their infants were born with HIV. In 2015, 25 years later, 391 positive women gave birth. Data for 2015, to be verified by July, indicate that no infants were born with HIV. These data represent a 79% decline in number of positive women delivering and a 100% decline in number of newborns with HIV. NYS has satisfied CDC criteria for elimination. An analysis of return on investment for preventing MTCT demonstrated for every $1 invested, NYS saved almost $4 in HIV-related health care expenses for infected children.

**Conclusions/Next steps:** With consistent collaborative effort, statewide regulations, implementation/monitoring strategies and efficient use of resources focused on prenatal HIV testing for all pregnant women and ARV medications for all HIV-positive pregnant women and exposed infants, MTCT can be eliminated in high prevalence jurisdictions and is cost effective. Sustaining elimination will be an ongoing challenge.

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**LBEPO17**

**COMPARING REAL-TIME ADHERENCE MEASUREMENTS TO TENOFOVIR BLOOD CONCENTRATIONS IN MSM AND TRANSMEN Prep USERS IN CAPE TOWN, SOUTH AFRICA**


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**Background:** Pre-exposure prophylaxis (PrEP) is an effective intervention to prevent HIV transmission in men who have sex with men (MSM) and transgender women (transmen). With approval in South Africa (SA) late 2015, scale up is expected soon. Understanding optimal adherence measurements in implementation settings is vital to successfully scaling up PrEP.

**Methods:** The Sibanye Health Project is a one-year cohort study of MSM/Transwomen in Cape Town, SA. HIV-uninfected, eligible participants were offered PrEP. One and two months after PrEP initiation, and three months thereafter, self-reported missed doses in the last week, pill counts, and dried blood spots (DBS) were collected. DBS were tested for tenofovir concentrations. Self-report and pill counts were used in real time to identify suboptimal adherence and intervene with counseling. Tenofovir results were received in bulk and incorporated into counseling as available. This analysis compared suboptimal adherence based on the three measures. Receiver operating characteristic (ROC) curves were created to compare real-time measures of suboptimal adherence to the “gold standard” of tenofovir concentration.

**Results:** Of 115 enrolled participants, 80 were HIV-uninfected, 66 were PrEP eligible, and 45 initiated PrEP. Data on all three adherence measures were available for 40 participants during 101 patient-visits (Table). Self-report and pill counts have low sensitivity in identifying suboptimal adherence (Figure). Tenofovir concentrations identified 28 additional patient-visits requiring increased counseling.
Conclusions: While viral load is an accepted measure of treatment adherence, there is limited consensus on appropriate PrEP adherence measures. These data suggest that drug concentrations are useful in measuring PrEP adherence for MSM in SA, at least early after initiation. Tenofovir-diphosphate testing is planned to clarify the utility of biomedical measures.

LPBEO19

UNEXPECTED BENEFITS AND HEIGHTENED DISCLOSURE RISKS: ADOLESCENTS’ EXPERIENCES IN A PREP TRIAL

A. Knopf1, M. Ott2, N. Liu3, B. Kapogiannis1, G. Zimet4, D. Fortenberry5, S. Hosek6, Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN)

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Background: Parental permission is a cornerstone of research protections for minors. However, in HIV prevention trials, parental permission may deter participation because of disclosure concerns. Research is needed to understand the best approach to balance protections for minors with equitable access to biomedical HIV prevention studies.

We describe the perspectives of young men who have sex with men (YMSM) regarding research decision-making and disclosure in a PrEP trial.

Methods: Project PrEPare (ATN trials 110/113) were open-label safety and demonstration trials for YMSM ages 15-22. They were the first US PrEP trials for adolescents, and allowed participants under 18 years to consent for themselves. Qualitative phone interviews were conducted 0-24 months after study completion. We examined disclosure, autonomous and supported decision-making, and perceptions of harms and benefits of study participation. Interviews were recorded, transcribed and analyzed using qualitative content analysis.

Results: Of 25 participants interviewed, 5 (20%) were younger than 18 at enrollment. At week 4, 16 (64%) had TFV-DP levels consistent with at least 4 doses of PrEP per week. Participants described research staff as strong sources of social support, and many suggested staff served as surrogate family. Only 2 discussed the trial with parents prior to enrollment. Among the rest, 9 disclosed participation after enrollment, 13 never disclosed, and one had lost both parents. Participants most often disclosed participation to friends, a few to parents, and one never disclosed.

Participants identified three disclosure-related barriers to parental permission: 1) risk of social harm with disclosing sexual minority status, 2) discomfort disclosing sexual activity, and 3) fear that parents would assume they were promiscuous or sexually irresponsible. Four would have approached parents for permission if required. Many discussed concern about PrEP-related stigma (e.g. being labeled a “PrEP whore”) and for some this prevented disclosure to friends and parents.

Conclusions: This group of high-risk YMSM had an overall positive experience as research participants. They identified unanticipated benefits and heightened concerns about disclosure, in particular, PrEP-related stigma, which may impact PrEP adherence. Attention to these barriers in the design of consent processes for future trials will facilitate appropriate access to biomedical HIV prevention research for adolescents.
The authors assessed the frequency and characteristics of adverse events (AEs) among VMMC clients aged 10-14 years by circumcision method (FG&DS), including glans injuries.

**Methods:** AE data were abstracted from circumcised clients aged 10-14 from November 2009 to December 2015 in 40 facilities in six provinces. By convention, only moderate and severe AEs/rates were included. Analysis was done to characterize AEs diagnosed and quantity AE rates, and compared by FG vs. DS method for statistical significance using Chi-square.

**Results:** Total of 447,289 VMMC procedures were conducted in the period, 235,527 (52.7%) among males aged 10-14 years. Of these, 198,242 (84.1%) through FG and 37,285 (15.8%) by DS. With FG the AE rate was 0.3% (341/112,997) and 0.14% (30/21,252) with DS. Chi-square revealed statistical differences between frequencies of AE in FG and DS (p=0.001), though 43% of clients failed to follow-up on day 7, and AEs are unknown among these. Only clients returning for follow-up visit were considered. No glans injuries occurred with DS, while with FG, there were 6 (5.9%). For both methods, bleeding/hematoma was the most frequently diagnosed AE, 23% with FG and 43% with DS, a difference of proportions t test revealed statistical differences (p<0.000). Infection and pain were similar across both methods.

**Conclusions:** The DS VMMC method reduced the risk of glans injuries among clients aged 10-14 years. Overall rate of AE was lower with DS than FG, with statically significant differences, except for bleeding/hematoma. Ongoing training in FG and DS surgical techniques should continue to ensure proficiency in both methods and further expand availability of appropriate VMMC methods to meet demand for VMMC, which is particularly high among adolescents.

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**LBPE022**

**GENERATION UBUNTU COMPREHENSIVE CARE MODEL**

J. Kuhn1, H Khonkwane2, Z. Zantsi3

1 Generation Ubuntu, Programme Management, Cape Town, South Africa, 2 Generation Ubuntu, Health, Cape Town, South Africa, 3 Generation Ubuntu, Education, Cape Town, South Africa

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**Background:** Generation Ubuntu (GenU) offers a Comprehensive Care Model to children ages 4-18 living with HIV in Khayelitsha, South Africa. GenU aims to provide the gold standard of care to 140 regularly attending children from the Khayelitsha area. The programme runs Monday-Friday every week. The objectives of the programme are 1) Increase BMI from Initial Health Assessment, 2) Increase Adherence to ARV/medication, and 3) Promote healthy living (measured by the above) and acceptance of HIV status.

**Description:** GenU was founded in 2006 and has worked with more than 340. GenU is an after-school programme based in Site B of Khayelitsha. Children are cared for under the 4 Departments of the Comprehensive Care Model outlined in the Department Descriptions Table.

<table>
<thead>
<tr>
<th>Department Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; Nutrition</td>
</tr>
<tr>
<td>HIV Education &amp; Life Skills</td>
</tr>
<tr>
<td>Psycho-Social Support</td>
</tr>
<tr>
<td>Community Engagement</td>
</tr>
</tbody>
</table>

**GenU** will present its findings through a specific example of a student, Simbulele. Simbulele had her initial health assessment at the age of 15 in January 2015. Simbulele had ulcers covering her trunk, sacral region, and legs. Her BMI revealed she was “Underweight”, as classified by the CDC, at 13.17 (Weight 22.6 kg & Height 131 cm). Her viral load was 152572. Her caregivers did not understand the importance of adherence to ARV’s and the severity of her health.

**Lessons learned:** The below table explains how GenU’s Comprehensive Care Model positively impacted Simbulele’s health over a 6 month period from January to July 2015.

<table>
<thead>
<tr>
<th>Department Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>GenU’s Comprehensive Care Model, yields similar results to Simbulele’s constantly. The GenU programme is effective and life changing. We have learned the importance of tracking Health Assessments and departmental interventions. Improving policies and procedures to better document successes like that of Simbulele will offer more accurate statistics as we continue to benchmark our program. Next steps include finalizing and disseminating the Programme Handbook. This will be offered as an open-source document available online to organizations that wish to implement our Comprehensive Care Model.</td>
</tr>
</tbody>
</table>

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Y. Qin1, A. Babitz, L. Han1, J.S. Walker1, F. Liu1, W. Tang1, J.D. Tucker1,5

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**Presenting author email:** yqin458@gmail.com

**Background:** HIV self-testing (HIVST) has the potential to expand HIV testing due to its confidential nature and accessibility, but substantial ethical concerns remain. Quantitative studies suggest widespread acceptability, but provide limited evidence on the social context of HIVST. We synthesized qualitative evidence on implementing HIVST.

**Methods:** We searched ten databases for studies reporting qualitative evidence on HIVST. All studies included individuals who self-tested or stakeholders who had organized an HIVST program. Data extraction and thematic analysis were used to synthesize findings. Quality was assessed using the CASP tool and certainty of evidence was evaluated using the CERQual approach.

**Results:** Fourteen studies from six countries focused on adults (12 studies), adolescents (2 studies), couples (2 studies), men who have sex with men (5 studies), trans-gender individuals (1 study), and health care workers (4 studies). Six studies were conducted in low and middle-income countries and eight in high-income countries. Fourteen studies included perspectives on individual experiences with self-testing, but no studies reported on stakeholder experiences with organizing self-testing programs. We identified 6 themes. HIVST was preferred to facility-based testing because of improved accessibility, feasibility, and confidentiality (high quality of evidence). HIVST provided a more personalized testing experience that increases agency and broadens the context in which testing occurs. Our findings have implications for developing national and global guidelines on HIV self-testing. Further implementation research on scaling up self-testing is needed.

**Outcomes:** HIV self-testing increases agency and broadens the context in which testing occurs. Our findings have implications for developing national and global guidelines on HIV self-testing. Further implementation research on scaling up self-testing is needed.

**LIFE201**

**THE SOCIAL CONTEXT OF HIV SELF-TESTING: A GLOBAL QUALITATIVE EVIDENCE SYNTHESIS**

Y. Qin1, A. Babitz, L. Han1, J.S. Walker1, F. Liu1, W. Tang1, J.D. Tucker1,5

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**Conclusions:** HIV self-testing increases agency and broadens the context in which testing occurs. Our findings have implications for developing national and global guidelines on HIV self-testing. Further implementation research on scaling up self-testing is needed.
LPBE023
HIV PREVENTION TRIALS NETWORK’S HPTN UTILIZATION OF GOOD PARTICIPATORY PRACTICE GUIDELINES DURING THE DEVELOPMENT OF A FEASIBILITY STUDY AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN SUB-SAHARAN AFRICA


1FH 360, Durham, United States; 2 Desmond Tutu HIV Foundation, Cape Town, South Africa; 3 Johns Hopkins Research Project, Blantyre, Malawi; 4 University of the Witwatersrand, Perinatal HIV Research Unit (PHYRU), Chris Han Baragwanath Academic Hospital, Johannesburg, South Africa; 5 KEMRI/CDC, Kisumu, Kenya; 6 HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University, Department of Psychiatry, New York, United States

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Background: HPTN 075 is a vanguard study designed to assess the feasibility of recruitment and retention of MSM in Sub-Saharan Africa (SSA). Given stigma, discrimination, and criminalization of homosexuality in SSA, innovative community involvement approaches were needed to proactively address concerns related to social harms, strengthen community rapport, and plan for community engagement. Robust community involvement during study design, preparation, and implementation is of critical importance for successful study completion.

Description: UNAIDS/AVAC Good Participatory Practice Guidelines (GPP) outline effective community engagement strategies for designing and conducting biomedical HIV prevention research. From March 2013 to April 2016 the HPTN Community Working Group (CWG) utilized GPP to provide substantive input into the HPTN 075 study design, on-going contribution to site implementation plans, communications plans, and crisis management plans. Additionally, community representatives at four clinical research sites (CRS) in three countries (Kenya, Malawi, and South Africa) conducted on-going MSM sensitivity trainings with community advisory board (CAB) representatives and all site staff who interacted with study participants. Attendees (n=97) were provided overviews of homosexuality, global MSM research, HPTN 075 study design, and the SSA HIV epidemic among MSM.

Lessons learned: Six African HPTN CWG representatives received training on protocol review and clinical research essentials. Protocol feedback from the CWG representatives resulted in practical operationalization of the proposed study design, improved community engagement efforts, and supported efficient participant enrollment and retention systems. MSM sensitivity training increased site staff’s (n=49) and CAB representatives’ (n=48) understanding of MSM lived experiences and behavior; decreased stigma, and enhanced site staff’s ability to provide culturally appropriate care to MSM. Participants identified potential barriers that might hinder accrual and retention and took steps to make clinics welcoming safe spaces for MSM.

Conclusions/Nest steps: Engaging community members in resolving matters that affect their community is a fundamental principle of HIV prevention research. It is an important strategy for the conduct of studies in highly stigmatized environments. While GPP provides a comprehensive checklist it cannot be applied blindly in all research and consideration should be given to context, research literacy levels, rights/legal status of study populations, and need for an ongoing engagement with key stakeholders.

LPBE025
ESTIMATING CONDOM NEEDS AND GAPS FOR FAST-TRACKING PEOPLE-CENTRED CONDOM PROGRAMMING IN SUB-SAHARAN AFRICA

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Background: Despite condoms’ major contribution to HIV incidence declines in various countries and their critical role in achieving the fast-track goals, investments have lagged since 2001. Condom use at last sex with a non-regular partner is less than 50% in several countries and sub-populations in sub-Saharan Africa. There is no agreed approach to estimate condom need, set targets and calculate gaps to inform comprehensive needs-based programming and resource mobilisation.

Methods: An MS-excel based tool was developed to generate national needs estimates by aggregating specific needs estimates for preventing HIV, STIs and unintended pregnancy for major sub-populations “at higher risk” including sex workers, MSM, people with non-regular partners, young people, PLHIV, and family planning clients who use condoms. For each sub-population need is calculated using published data on population size, HIV prevalence, sexual behaviour and condom use targets (80-95%). Overlap between estimates for sub-populations are corrected and assumptions for wastage included. The national condom gap is calculated using data on total annual male and female condom distribution.

Results: Total estimated condom need for the 46 countries was 6.4 billion ranging from 63 condoms per male age 15-64 in Botswana to 14 in Ethiopia. On average, condom needs for sex workers and their clients accounted for 35% of the total need, HIV affected couples for 22%, non-regular partners for 19%, MSM for 9% and other users of condoms for family planning for 16% of the total need. In 2015, an estimated 2.7 billion condoms were distributed in Africa, suggesting a potential gap of 3.7 billion against the total estimated need (6.35 billion) and that 58% of the condom need was not met. Country gaps ranged from 3% of total condom need in South Africa to >75% in several countries. 110 million USD/year is needed to close the procurement gap. Range: 24 million USD (Nigeria) to 51.5 million USD (25 countries).

Conclusions: Our estimate of total potential condom need suggests that there is a substantial condom programming gap in most sub-Saharan African countries. Increased investment in scale-up of comprehensive demand generation, procurement and people-centred programming is needed to ensure condoms’ full contribution to combination HIV prevention.
**LBPE026**

**SYSTEMATIC REVIEW OF THE BARRIERS AND FACILITATORS TO VOLUNTARY MALE MEDICAL CIRCUMCISION (VMMC) UPTAKE IN PRIORITY COUNTRIES AND RECOMMENDATIONS**

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**Background:** In 2007, the WHO called for scaling-up voluntary male circumcision (VMMC) as an effective HIV prevention strategy, particularly in 14 priority countries with generalized HIV epidemics and low male circumcision prevalence. While millions have accessed VMMC since scale-up, demand has been lower than expected, compromising VMMC’s HIV prevention benefits at population level. The purpose of this study is to systematically analyze the literature to understand barriers and facilitators to VMMC uptake across countries and offer recommendations.

**Methods:** PubMed, Embase, Web of Science, Scopus, and PsycINFO databases were searched for studies published in peer reviewed journals from 2007 through 2015. Reviewers assessed the eligibility of each study based on predefined inclusion criteria. Twenty three studies were selected: 16 qualitative, 4 quantitative, and 3 mixed methods studies. Data was extracted in a study summary table, and tables and conceptual maps summarizing VMMC barriers and facilitators across countries.

**Results:** The data revealed 17 barriers and 16 facilitators at community, individual, institutional, and service provision levels. Key barriers were: negative community perceptions as being practiced by other or foreign cultures and religions; fear of pain caused by the procedure; and futility of VMMC because of low HIV risk behavior and still needing to use condoms. The main facilitators were: improved hygiene; family and peer support (especially for boys and young men); and enhanced sexual pleasure and sexual appeal. VMMC was strongly preferred for younger than older men. Lost wages, cost associated with circumcision, and inconveniences around having to take time off for healing were not prominent barriers across countries.

**Conclusions:** VMMC programs should address barriers to VMMC uptake at various levels, particularly community level where community involvement seems neglected. Additionally, VMMC services should continue to be made fully accessible to boys among whom MC is becoming normative across countries. In the case of adults, offering VMMC information through individually-tailored counseling sessions may help to overcome VMMC-related stigma among adults and determine its appropriateness based on individual circumstances. Given that lost wages were not a prominent barrier, monetary incentives for uptake may not be justifiable across countries and they should be assessed also considering their psychosocial impact.

**LBPE027**

**ASSOCIATIONS BETWEEN NEIGHBORHOOD PHYSICAL DISORDER, SEXUAL BEHAVIORS AND HIV INFECTION AMONG BLACK MEN WHO HAVE SEX WITH MEN IN THE DEEP SOUTH: THE MARI STUDY**

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**Background:** Despite decades of research examining a broad range of behavioral factors, stark racial and geographic disparities in HIV persist among men who have sex with men (MSM). Moving beyond studies of individual-level factors, a focus on neighborhood contexts may help explain variations in HIV among subsets of MSM. The purpose of this study was to examine associations between neighborhood disorder, sexual behaviors and HIV infection among Black MSM in the Deep South, a population at high risk for HIV.

**Methods:** Data came from the MARI Study, including Black MSM ages 18-66 years recruited from the Jackson, MS and Atlanta, GA metropolitan areas (analytic sample n=373). Participants completed questions about neighborhood disorder (i.e., excessive noise, heavy traffic/speeding cars, lack of adequate food, parks and sidewalks, and trash/litter) and sexual behaviors (e.g. condomless sex) as well as underwent STI/HIV testing. We used logistic regression models to estimate the prevalence ratio (PR; 95% confidence intervals [CI]) of neighborhood disorder with sexual behaviors and HIV infection, after adjustment for socio-demographic characteristics.

**Results:** About a fourth of the sample reported neighborhood problems across the different aspects, with the highest (31.4%) being no/poorly maintained sidewalks. Multivariable models show that tertiles of neighborhood disorder was associated with any alcohol or drug use before or during sex (especially drug use before sex), condomless anal sex with a main partner during the last encounter and HIV infection as well as ≥2 main male partners in the past 12 months and exchange sex in the past 12 months (all p < 0.05). For example, compared to tertile 1, those reporting more neighborhoods disorder in tertile 2 (PR=1.70, 95% CI: 1.16, 2.48) and tertile 3 (PR=1.72, 95% CI: 1.18, 2.53) reporting more drug use before or during sex (p for trend=0.005). Individuals reporting more neighborhoods disorder in tertile 3, compared to tertile 1, were more likely to be HIV infected (PR=1.48, 95% CI: 1.11, 1.96) (p for trend=0.007).

**Conclusions:** Our findings suggest that policies and structural interventions to improve community infrastructure to reduce neighborhood problems (e.g. building quality sidewalks) may alleviate the burden of HIV among Black MSM in the Deep South.
Background: Participating in HIV prevention research exposes MSM in sub-Saharan Africa (SSA) to various social and cultural risks. In this study, there are risks to re-
search staff and the integrity of the study. Risks to participants include insensitive treatment by study staff and disclosure of sexual practices, resulting in discrimi-
nation. There are potential legal repercussions in countries that criminalize homo-
sexual activities because participation implies ‘illegal’ behavior. Other risks include physical attacks on study sites and negative media coverage of the study or the MSM population. To safeguard overall safety, these risks need to be thorougly assessed in advance, and procedures needed to be in place to mitigate these risks.

Description: Four sites participating in a study designed to assess feasibility of re-
cruitment and retention of MSM in SSA (HPTN 075) developed site-specific risk-
mitigation plans (RMPs), informed by the AmFAR Respect, Protect, Fulfil campaign. RMPs included ongoing dynamic community consultation; establishing general and
MSM community rapport and support; procedures for ensuring confidentiality; sen-
tsitig relevant stakeholders, including the media and local police; procedures for responding to identified problems; an emergency committee; and systematic as-
sessments of possible social harms at study visits. RMPs were reviewed by the study
team and individuals with expertise in human subjects protection as well as legal and
local implications. RMPs were further refined after visits to two sites where concern for harm was highest. Final plans were approved by the local IRBs.

Lessons learned: Five social harms were reported by three sites in the study’s first
10 months and addressed according to the RMPs. These social harms included: indecent treatment of study participants (n=2), loss of confidentiality related to MSM status (n=2); and self-disclosure of a positive HIV status, negatively affecting family relationships (n=1). Confidentiality was breached through the discovery of informed consent forms, resulting in homophobic treatment by a manager at work and a decision not to participate in the study. Without RMPs we would have been
found off-guard and an unprepared response might have aggravated these social harms. An efficient and effective response was greatly facilitated by the develop-
ment of RMPs.

Conclusions/Next steps: RMPs are a necessity when doing research with marginal-
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Conclusions/Next steps: RMPs are a necessity when doing research with marginal-
ized populations.

Results: The response rate was 87%

<table>
<thead>
<tr>
<th>DESIGNATION</th>
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<tr>
<td>STUDENT DOCTOR</td>
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<td>YEAR 3-50%</td>
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<td>YEAR 4-42%</td>
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<td>YEAR 5-8%</td>
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Although awareness on existence of LGBTs higher than 90%, only 35% reported awareness of unique health-needs of LGBTs with 38% unsure. Only 10% received formal training on consulting a LGBT patient. Knowledge on sexual protection de-
VICES was moderate for the condom (61%) very poor for sexual gloves (22%) den-
tal dam (37%) and lubricants (42%). Knowledge on prevalent medical conditions
among LGBTs was high for STIs (94%). Fistula formation and anal cancer (62%), sui-
cide and depression (60%) poor for other cancers (40%). Provision of supportive
environment during consultations was poor among those who had consulted a LGBT
patient, 5% of respondents never asking about sexual orientation only 22% provid-
ing non-judgmental setting and 15% screening for relevant illnesses.

Conclusions: Awareness on the existence of the LGBT community is high but signifi-
cantly low knowledge and poor practices on unique health-needs of LGBTs among future healthcare workers. This may be partially attributed to absent formal training on LGBT health needs for medical and nursing students. This is likely to negatively impact future HIV prevention efforts among LGBTs and larger population.

LBPE031
HIGHLY SUCCESSFUL ENGAGEMENT IN AN ACUTE HIV-INFECTED ANAL WOUND CAMPAIGN IN AMSTERDAM

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Background: Acute HIV infection (AHI) is associated with increased infectiousness because of high levels of HIV viral load. Timely detection and treatment of AHI can contribute to a better HIV prognosis and help prevent onward transmission. Men who have sex with men (MSM) in the Netherlands are generally unaware of the campaign material and the benefits of early detection and treatment of AHI.

Methods: We designed an online intervention to promote knowledge of AHI and skills to self-identify it among MSM, using interactive text, films, and testimonials. An (online) media campaign directed men to the intervention, www.heibikiv.nl, where visitors were trained in recognizing AHI-symptoms and subsequently of-
ered an interactive risk-assessment questionnaire combining sexual risk behavior and AHI-related symptoms. If indicated at risk, men were referred to a specific point of care (POC) for rapid HIV RNA testing where AHI could be detected and imme-
diate counseling and treatment could be offered. Intervention participation was monitored using web-statistics, and if presented at the POC, men were questioned regarding their referral source.

Results: From mid August 2015 to April 2016, the intervention was visited over 113,700 times by over 96,540 unique visitors. Of all visitors, 56% (53,627/96,540) completed the online risk-assessment tool. Of those, 10% (5,598/53,627) received the advice to test for AHI, and subsequently, 20% (1,093/5,598) downloaded the referral letter to the POC. Preliminary results collected at the POC indicated that 142 men presented themselves for AHI testing, of which 65.5% (93/142) were con-
firmed to arrive through the campaign or website.

Conclusions: Despite the specialized theme, the AHI campaign succeeded in engag-
ing a large number of MSM. The high percentage of participants who continued and completed the risk-assessment tool points at an in-depth engagement with the intervention’s material. While most men were not found to be at risk for AHI at the moment of participation, their engagement with the intervention is meant to enable them to self-identify an AHI-infection in the future. The Amsterdam AHI campaign is still ongoing and after its completion (2017) the full data collected at the POC will be combined with the findings.
LBPE032
RISING CD4 COUNTS AT CLINICAL PRESENTATION: EVIDENCE FROM A NOVEL NATIONAL DATABASE IN SOUTH AFRICA

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Background: Treatment as prevention requires earlier HIV-testing and linkage to care. Prior studies suggest that many patients only seek care once they are sick. Using novel record linkage of National Health Laboratory Services (NHLS) data, we identified: - the first time - the first CD4 specimen collected for all patients in South Africa’s national HIV care, management and treatment program, a proxy for the date of clinical diagnosis. Monitoring entry into clinical HIV care is critical to guide resource allocation as test-and-treat is scaled up.

Methods: The NHLS database contains nearly all CD4 counts collected in South Africa’s national HIV care and treatment program (2004-2015). KwaZulu-Natal joined NHLS in 2010. We constructed and validated a unique patient identifier, enabling identification of the first CD4 count specimen in patients who had never had a viral load (ART-naive). We estimated the number of patients with a first CD4 specimen and the median value of these CD4 counts, quarterly from 2004-2015, stratifying by gender, province, and district.

Results: From April 2004-March 2015, there were 8.8 million first CD4 specimens nationwide. Numbers entering HIV care each quarter increased from 2004 through 2010, reaching over 350,000 per quarter during the 2010/2011 national testing campaign, and have since plateaued at 210,000 per quarter. Median first CD4 count has increased, from 178 cells/mm3 in second quarter of 2004 (men=147; female=194) to 348 cells/mm3 in first quarter of 2015 (men=280; female=386), with rapid increases occurring during the national testing campaign (Figure). However, there are large and persistent disparities in median CD4 by gender and province (Figure).

Conclusions: South Africans living with HIV are seeking care earlier than ever before. Geographic and gender heterogeneity suggests potential opportunities to learn from higher-performing regions and the need for targeted interventions in specific areas and among men to increase early engagement with HIV care.

[Figure. Median CD4 counts in patients presenting for HIV care in South Africa, 2004-2015. Figure displays trends in the median value of first CD4 count specimens recorded, by province and nationally. The figure excludes KwaZulu-Natal, which joined NHLS in 2010. The shaded region denotes the April 2010 - December 2011 national HIV testing campaign]

LBPE033
IMPLEMENTING THE PEPFAR PIVOT: EXPERIENCES FROM ZIMBABWE’S VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM

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Background: Since 2013, the ZAZIC Consortium implemented an integrated voluntary medical male circumcision (VMMC) program jointly with Ministry of Health and Child Care in 21 districts in Zimbabwe. ZAZIC’s integrated VMMC approach used existing healthcare workers and MOHCC infrastructure. From October 2013 through September 2015, ZAZIC expanded from 2 to 36 static VMMC sites and performed a total of 84,708 VMMCs, averaging 3530 per month and exceeding donor targets. More than 85% of all VMMCs were completed independently by existing MOHCC staff in health facilities; approximately two-thirds occurred in outreach settings.

Description: In 2015, the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) 3.0 required a strategic pivot in Zimbabwe’s VMMC program, transitioning from national coverage to focused scale-up in areas of highest disease burden. Under the pivot, ZAZIC’s VMMC implementation was limited to 10 scale-up districts beginning in October 2015. Ambitious targets were maintained, translating to a 40% increase in circumcisions within these districts. By January 2016, implementation was discontinued outside of PEPFAR scale-up districts. From October 2015-March 2016, ZAZIC performed 20,241 VMMCs, a monthly average of 3374, demonstrating an impressive transition in accordance with the pivot requirements.

Lessons learned: The pivot necessitated immediate redirection from program breadth to depth. Due to MOHCC human resource constraints and the dramatic rise in targets, this mandate was accompanied by a rapid ZAZIC shift from integrated service delivery to a mixed implementation approach employing additional mobile teams using non-MOHCC staff.

Conclusions/Next steps: ZAZIC’s locally-led consortium successfully transitioned its program to meet changing PEPFAR priorities. Momentum indicates continued future achievements. There is need to evaluate the implications of the pivot on VMMC cost, quality, population-level HIV reduction benefit, and impact on the health system as a whole.

LBPE034
EVALUATION OF A CONDITIONAL CASH TRANSFER PROGRAM FOR PREVENTING MOTHER TO CHILD TRANSMISSION (PMTCT) OF HIV IN NIGERIA

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Background: Nigeria suffers from the highest burden of MTCT worldwide. Although PMTCT services are widely available at public clinics, most HIV+ women do not complete the PMTCT cascade. To increase retention, a conditional cash transfer (CCT) program was piloted in Akwa Ibom in 2014 for HIV+ pregnant women. Through a...
randomized control trial, we evaluate the effect of this program on two targeted health behaviors—delivering at a facility and getting an early infant diagnosis (EID) 6-8 weeks post-birth. Interim results (the study is on-going) became available in spring 2016.

Methods: From August 2015 to April 2016, HIV+ pregnant women at three public facilities in Akwa Ibom, Nigeria were randomized to be offered enrollment in the CCT program, where they received cash incentives for up to US$160; (determined with feedback from local stakeholders and patient-reported-out-of-pocket medical expenditures) independently for: enrolling, delivering at the facility, and obtaining an EID, compared the standard course of care. Data on patient characteristics, delivery outcomes and infant testing were extracted from administrative records. Regression analysis was conducted to estimate the impact of the intervention (ITI) effects of the program.

Results: Of 473 pregnant women testing HIV+ so far, 238 (50.3%) were randomized to the control group and 235 (49.7%) to the treatment group. Compared to women in standard PMTCT care, women in the CCT program were significantly more likely to give birth at the facility (OR=2.28, p=0.001, n=330); representing a 1.8 percentage point difference in facility-based births (27.5% vs. 45.9%). Women in the CCT program were also significantly more likely to return for an EID test (OR=1.78, p=0.068, n=181); than those in standard PMTCT care, representing a 13.5 percentage point difference in EID testing (32.1% vs. 45.6%).

Conclusions: Preliminary results suggest that a CCT program can improve retention in PMTCT in Akwa Ibom, Nigeria. Through continued research we will assess: optimal cash amounts, better targeting of women most in need, reasons for non-compliance and self-reported survey data on care and treatment behaviors.

LBE035
A NOVEL ONLINE-TO-OFFLINE (O2O) MODEL FOR PREP AND HIV TESTING SCALE UP
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Background: PrEP awareness and uptake among men who have sex with men (MSM) and transgender women (TG) in Thailand remains low. Finding ways to identify high-risk groups through innovative and scalable methodologies for increasing uptake of PrEP and HIV testing is a critical priority.

Methods: The Thai Red Cross AIDS Research Centre (TRCARC)’s Adam’s Love (www.adamslove.com) launched a three-month program to enroll MSM and TG into free PrEP and HIV testing services using its novel online-to-Offline (O2O) model at four sites in Bangkok including Adam’s Love private clinic, TRCARC public clinic, and two community-based clinics. Adam’s Love online staff provided real-time PrEP eCounseling to assess and enroll at-risk participants who made online bookings via free Eventbrite application and received auto-generated e-ticket and Quick Response (QR) code on their mobile devices that were scanned at check-in by the offline site staff.

Results: Between January 10th – April 11th, 2016, Adam’s Love reached 272,568 people online via PrEP O2O campaign. 425 MSM and TG received eCounseling, made online bookings, and received QR codes. 325 (76.4%) actually checked-in at clinics, 325 (76.4%) actually checked-in at clinics, with a median of 0-7 days for HIV testing and 3 (1-7) days for PrEP services. Clients of Adam’s Love and TRCARC clinics had higher education (p<0.001), higher income (p<0.001), were less likely to be bisexual (p=0.07), and less aware of any HIV prevention methods (p=0.02), than those at community-based clinics. In a multivariate model, higher education (OR 2.17, 95%CI 1.06–4.45; p=0.02), seeking sex partners online (OR 2.17, 95%CI 1.19–3.61; p=0.01), being aware of their HIV status (OR 2.43, 95%CI 1.31–4.48; p=0.02), ever used PrEP (OR 2.39, 95%CI 1.15–4.96; p=0.02), and enrollment at Adam’s Love clinic (OR 4.05, 95%CI 2.18–7.54; p<0.001) were associated with PrEP uptake.

Conclusions: Adam’s Love O2O model is highly effective in linking online at-risk people to actual PrEP and HIV testing services, using online eCounseling and booking as ‘bridging steps’. The O2O model has high potential to be replicated and scaled up in other settings with high internet penetration among key populations.

LBE036
ESTIMATION OF TIMELY EID AND MORTALITY AMONG HIV-EXPOSED INFANTS IN MASHONALAND EAST PROVINCE, ZIMBABWE: A SAMPLING-BASED APPROACH
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Background: Estimates indicate 45% of HIV-exposed infants receive timely Early Infant Diagnosis (EID) in Zimbabwe. However, existing health information systems do not enable routine reporting of the proportion of exposed-infants that receive EID, creating uncertainty regarding the true fraction. We conducted a population-based survey in which individual HIV-infected mother-HIV-exposed infant pairs were followed through registers to identify and trace a sample of HIV-positive women with no documented EID for their infants to ascertain better estimates of timely EID completion.

Methods: A modified probability-proportional-to-size schema was used to select 45/193 health facilities in Mashonaland East Province. Outcomes of all HIV positive mothers enrolled in ANC from Apr-12 to May-13 were traced through facility registers to determine documented uptake of EID<3 months of age. A random sample of women with no documented EID for their infants were traced at household level to determine true outcomes. We estimate cumulative incidence of timely EID and death by 3 months of age among the population of HIV-exposed infants.

Results: Among 18,065 women attending ANC, 2,651 were HIV positive (14.7%); 31.2% (n=828) had documented uptake of EID within three months (95%CI:29.5–33.0%). From Mar-May 35, of 643/1,826 (35.3%) mothers of HIV-exposed infants with no documented EID, 256 (39.8%) were successfully traced at household level. The majority of infants (76.9%;n=190) traced had DNA PCR samples for EID, however only 38.4% (n=73) confirmed timely EID within 3 months of birth. We observed a high rate of HIV-exposed infant mortality (17.8%; 66/371) among infants for whom vital status outcomes could be ascertained and ‘my child died’ was the number one reason provided among the ‘no EID’ group. Weighted population estimates indicate cumulative incidence of infant death by 90 days at 3% (95%CI:3.4 - 4.4%) and an annual infant mortality rate of 7.7% (95%CI: 4.7%–13.5%). Cumulative incidence of timely EID with death as a competing risk was 60% (95%CI: 58.7% to 67.3%).

Conclusions: Our findings indicate uptake of timely EID among HIV-exposed infants is currently underestimated. High, early mortality among HIV-exposed infants underscore need to identify HIV positive mother-HIV exposed infant pairs at high risk of adverse outcomes and loss-to-follow-up. Sampling-based approaches are valuable tools for providing a better picture of PMTCT program effectiveness.

LBE037
DIFFERENTIATED MODELS FOR DELIVERY OF ANTIRETROVIRAL THERAPY TO HIV-INFECTED WOMEN IN THE POSTPARTUM PERIOD IN CAPE TOWN, SOUTH AFRICA
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Background: Concerns exist regarding delivery of antiretroviral therapy (ART) to HIV-infected women in the postpartum period, including low levels of retention in care and poor adherence. We piloted an innovative model of care for delivery of ART services to postpartum women.

Methods: We recruited a cohort of HIV-infected women who initiated ART in pregnancy making their first postpartum visit at a primary care facility in Cape Town, South Africa. Eligible women were asked to choose between two models of care for delivery of long-term ART services: (i) referral to existing system of community-based ‘ART adherence clubs’ (AGs), operated by lay counsellors with medication collection every 2-4mo; or (ii) referral to the local primary care clinic (PHC), with services provided by clinicians and medication collection every 1-2mo (standard of care). Women were followed through 6mo postpartum with study visits conducted separately from either ART service.

Results: Between February and September 2015, 129 postpartum women were enrolled (mean age, 28yrs; median time postpartum, 10 days); 65% (n=84) opted for AGs and 35% (n=45) for PHC. Reasons for choice included shorter wait times, ability to receive ART from lay counsellors and less frequent appointments among those choosing AGs; women opting for PHC cited proximity to their homes and/or infant health services and more frequent contact with clinicians. Among women choosing...
ACs, 64% were retained in ACs through 6mo postpartum; 18% dropped out after at least one visit and 2% were referred out for clinical reasons. Of those who chose ACs, 61%, 26%, and 13% reported none, < 1, and 1+ missed doses, on average, per 30 days on ART up to 6mo postpartum, respectively. In this group, 87% (n=73) had 6mo viral load (VL) measure. Of these, 88% and 92% had VL<50 and >1000 copies/mL, respectively. Compared to women who were retained, women who disengaged from ACs were more likely to have VL≥50 (p=0.051) and VL≥1000 (p=0.001).

Conclusions: These data demonstrate that it is possible to refer HIV-infected women on ART to ACs immediately postpartum. However ongoing retention remains a concern and further research is needed to evaluate long-term outcomes.

**LBPE038**

**HIGH RATES OF RETENTION AND VIRAL SUPPRESSION IN THE SCALE UP OF ANTIRETROVIRAL THERAPY ADHERENCE CLUBS IN CAPE TOWN, SOUTH AFRICA**

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Background: Increasingly there is health authority scale up of successfully piloted differentiated models of antiretroviral therapy (ART) delivery to stable patients. However, there is a paucity of evidence on system-wide outcomes after scale-up. In the Cape Town metropolitan district, stable patients (ART>6 months, suppressed viral load) were referred to Adherence Clusters (ACs) - a group model of ART delivery with five visits per year. By the end of March 2016, approximately 32% of 142,000 ART patients were in an AC. We describe patient outcomes of a representative sample of AC patients during this scale-up.

Methods: Patients enrolled in an AC at non-research supported sites between 2011 and 2014 were eligible for analysis. We sampled 10% of ACs (n=100) in quintets proportional to the number of ACs at each facility, linking each patient to city-wide laboratory and service access data to validate retention and virologic outcomes. We digitised registers and used cross-sectional and Kaplan-Meier methods to estimate outcomes: lost to follow-up (LTFU), transfer (TFO) and viral load assessment and suppression (< 400 copies/mL).

Results: Of the 3,216 adults contributing 4,188 person years of follow-up (94% in an AC, median 13 months), 71% were women. The median time from ART initiation to AC enrolment was 2.3 (Interquartile range [IQR] 1.5-3.6) years. Cross-sectional retention at study closure was 89%, with 40.1% reported deaths and 104(3.2%) patients LTFU. Of 251 (7.8%) transfers, 174(69%) were originally classified as LTFU identified through data linkage. Cumulative retention, LTFU and TFO were 94.9% (CI 92.9-94.8), 2.1% (CI 1.6-2.8) and 3.9% (CI 3.2-4.7) at 12 months and 83.7% (CI 81.5-85.6), 5.1% (CI 4.0-6.5) and 11.6% (CI 10.0-13.5) at 24 months after AC enrolment. After 12 and 24 months in an AC, 96.8% (CI 96.0-97.4) and 96% (CI 95.0-97.0) were virally suppressed, with viral load completion in 87% and 84% of patients. Conclusions: This is the first analysis reporting patient outcomes after health authorities scaled-up a differentiated care model across a high burden district. The findings provide substantial reassurance that stable patients on long-term ART can safely be offered care options, which are more convenient to patients and less burdensome to services.

**Methods:** The ZAZIC Consortium began implementing VMMC in Zimbabwe in 2013, supporting services at 36 facilities. Aggregate data on VMMC outputs are collected monthly from each facility. Detailed forms are completed describing the profile of each moderate and severe AE. Bivariate and multivariable analyses were conducted using log-binomial regression models.

**Results:** From October 2014 to September 2015, 44,868 clients were circumcised according to their VMMC method choice; 156 experienced a moderate or severe AE. AEs were uncommon: 0.28% (116/41,416) of surgical and 1.16% (40/3,452) of PrePex clients experiencing an AE. After adjusting across the 36 VMMC sites, we found that PrePex was associated with a 3.29-fold (95% CI, 2.94-3.50) increased risk of experiencing an AE compared to surgical procedures. Device displacements, when the PrePex device is intentionally or accidentally dislodged during the 7-day placement period, accounted for 70% for PrePex AEs. The majority of device displacements were intentional self-removals. Infection was the most common AE among VMMC clients. Compared to clients ages 20 and above, clients ages 10-14 were 3.07-fold (95% CI, 1.30-7.26) more likely to experience an infection and clients ages 15-19 were 1.80-fold (95% CI, 0.72-4.48) more likely to experience an infection, adjusted for site.

**Conclusions:** To the best of our knowledge, this exploratory analysis is the first to show that clients receiving a PrePex MC were more likely to experience an AE than surgical circumcision clients. This is largely attributable to the frequent occurrence of device displacements, most of which could be prevented if client behavior could be modified through counseling interventions. We are also the first to find that infection after MC is more common among younger clients. Young clients may benefit from additional counseling or increased parental involvement to reduce infections.

**LBPE040**

**THE KAVANGO TREATMENT INITIATIVE: ENGENDERING MUTUAL EMPATHY TO CATALYZE ACTION TOWARDS ACHIEVEMENT OF THE 90-90-90 TARGETS**

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Background: Namibia’s Kavango Region had the second-highest HIV treatment gap in the country at almost 50% (PEPFAR analyses, 2015). As part of the PEPFAR-funded Namibian Institutional Strengthening project, the Kavango Treatment Initiative (KTI) was a highly successful, locally-driven platform that created the opportunity for local actors to focus on shared objectives and formulate innovative and collaborative solutions to address the local epidemic.

Description: Targeting Rundu District, the largest district in the region, KTI was a critical platform for improving the HIV cascade. After a careful recruitment process, the KTI merged locally, easily understood data on service mapping, patient data and pharmaceutical data with innovative facilitation approaches to foster open interaction, trust, needed dialogue and idea exchanges between health care providers and PLWHA, along with critical experiential learning to develop clear, shared goals. The results were local solutions implemented by highly motivated and empowered members. Convening 6 times in less than 6 months, the KTI (1) improved data demand and systems which led to improvements in the management of client flows, waiting times, defaulter tracking and referrals, and reduced stock-outs, and (2) increased active ART clients by 24%.

(Figure 1: Increase in active clients by 24% in Rundu District between March and Sept 2015)

**Lessons learned:** As a forum that removed organizational and rank boundaries, the KTI broke through many constraints typical of coordination structures. The facilitated processes improved empathy and solidarity consensus, which was critical to
deepening local ownership and understanding of issues and motivated members to mobilize local resources rapidly to take action.

Conclusions/Next steps: Small investments in well-facilitated participatory processes that target joint understanding, trust, and empathy can dramatically motivate government and non-governmental actors to creatively take action. Opportunities for generating and sustaining high levels of motivation for catalyzing action are critical in places like Namibia where the HIV response is predominantly domestically funded, and where efficiencies in human resources and supporting systems are urgently required to deliver an effective response.

LBPE041
COMMUNITY-BASED DISTRIBUTION OF HIV SELF-TEST KITS: RESULTS FROM A PILOT OF DOOR-TO-DOOR DISTRIBUTION OF HIV SELF-TEST KITS IN ONE RURAL ZIMBABWEAN COMMUNITY


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Background: We piloted household distribution of HIV self-test (HIVST) kits in one rural district in Zimbabwe in preparation for a community randomised trial evaluating HIVST distribution models.

Methods: We briefly trained 81 paid community volunteers (CV) to distribute HIVST kits in four rural wards. Test-kits were distributed house-to-house to adults (≥16 years) with verbal consent. CV provided information on HIVST use and post-test referral. Demographic data were captured electronically from test acceptors who could opt to test alone or with CV assistance. Self-testers were asked to return used kits to locked drop-boxes in communities. Late read was then used to estimate HIV prevalence. At two and four weeks after kit distribution, PSI provided confirmatory testing, CD4 cell count/clinical staging/referral and non-HIV services through mobile outreach. Focus group discussions (FGD) explored views on HIVST and were analysed thematically. A follow-up household survey is underway providing population level estimates of uptake and linkage to services.

Results: Between 23Mar16 and 23Apr16, 79 CVs distributed 8,095 HIVST kits to 3,516 (51.8%) households across all four wards (estimated adult population 14,534 (males=5,849)) representing coverage of 61% in men and 52% in women. Electronic data are available for 7,510 individuals; 44% were male, 15% were adolescents (16-19 years). 85% tested without CV assistance and 5,521 (68.2%) returned their used HIVST kits as requested. On late read 0.4% kits were invalid and 0.4% were unused. Of the remaining kits 1153 (21.0%) of 5,479 were HIV+ve, representing a minimum yield of 1153/8095 (14.3%). 824 (10.2%) participants accessed PSI post-test services; some presented directly to public health facilities. A minimum of 48 HIV positive self-testers have been initiated on antiretroviral therapy to date.

In FGD self-testers stated that HIVST facilitated testing among individuals who would not test otherwise. Demand for HIVST exceeded supply.

Conclusions: Community-based distribution of HIVST is acceptable and results in high testing coverage, particularly among men and young people. The high testing yield suggests participation by high risk individuals with unknown status, although we cannot exclude use of kits to confirm known HIV+ve status. More precise estimates of uptake and linkage based on household surveys are currently being analysed.
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