Abstracts

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15 Enhancing Medication Adherence, Knowledge, and Social Support Among Youth Living with HIV Using an iPhone Game

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Background: Despite promising outcomes of antiretroviral therapy (ART), challenges to improving adherence among youth living with HIV (YLWH) exist. This study examines the effects of an iPhone game/app on ART adherence and viral load among YLWH in Jackson, MS.

Methods: A RCT with 61 YLWH tested the impact of Battle Viro, an ART-related iPhone game, over six months. Participants, ages 13-26, were recruited from HIV clinics and randomly assigned to receive Battle Viro or a non-HIV related mobile game. All participants received a medication monitoring device. Chi-square and t-test analyses examined baseline differences between conditions. Continuous outcomes were examined using analyses of covariance (ANCOVAs) controlling for baseline scores. Cohen's d effect sizes were calculated.

Results: The sample was 79% male, 75% Black, and 74% non-heterosexual, with a mean age of 22 years. A third had started ART in the past 3 months. Examination of effect sizes revealed that the intervention group demonstrated greater improvement in HIV-related knowledge (d=0.50) and social support (d=0.62) but otherwise there were no outcome differences. Exploratory moderation analyses revealed an interaction between condition and newly starting ART. Those newly starting ART in the intervention condition experienced a 0.96 log greater decrease in viral load (F=4.33, p=0.04) and showed better adherence (71% vs 48%; d=1.18, F=3.20, p=0.05) compared to those in the control condition. Among those newly starting ART, the intervention condition demonstrated improved HIV knowledge (d=0.90; F=3.23, p=0.09) and ART knowledge (d=0.73; F=1.59, p=0.22) compared to the control condition.

Conclusion: The Battle Viro intervention showed an impact on HIV knowledge and social support for those using the game. Also, there was improved adherence and viral load outcomes, specifically among those newly starting ART. These results support the need for a larger trial to further explore the impact of Battle Viro.

17 Urine Testing Detects Tenofovir in HIV-Positive Patients on Tenofovir Alafenamide-Based Treatment

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Background: Tenofovir alafenamide (TAF) is approved for ART and is being evaluated for HIV prevention. Urine tenofovir (TFV) testing has been validated to measure tenofovir disoproxil fumarate (TDF)-based PrEP and ART medication adherence. Compared to TDF, TAF has approximately 10% of the plasma tenofovir exposure. In a proof of concept study, we assessed the urine assay for the detection of TFV in patients taking TAF-based ART.

Methods: Ten study participants were recruited from the Washington University in St. Louis ID Clinic from April-June 2017. Inclusion criteria were HIV-infection with undetectable viral load ≥3 months, on TAF-based ART for ≥3 months, ≥18 years, and not pregnant. The primary outcome was TFV detection using the urine assay. Urine TFV levels >1,000ng/mL indicate tenofovir use in the previous 48 hours and levels.

Results: Participant median age was 52 years (IQR 47-56), 80% were male, 50% were white, median duration of HIV infection was 13 years (IQR 8-19), and median duration of taking TAF-based ART was 15 months (IQR 12-16). ART regimens were TAF/FTC/EVG/COBI (60%) and TAF/FTC/RPV (40%). Nine individuals had urine TFV levels >1,000 ng/mL; eight of these participants self-reported no missed doses in the previous week. One participant had a level <10 ng/mL, who self-reported missing 3 doses in the previous week.

Conclusions: We demonstrated that the urine TFV assay can detect TFV in a sample of HIV-infected, virally suppressed participants on TAF-based ART. Despite known lower plasma levels of TFV in patients taking TAF versus TDF, urine TFV levels are comparable between these two populations. In the single participant with a urine TFV level <10ng/mL, there was self-reported recent ART non-adherence. These findings have implications for low-burden clinical monitoring of TAF for HIV treatment and prevention.

20 Public-Private Collaboration to Re-Engage Out-of-Care Persons into HIV Care

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Background: Re-engagement in care of HIV-diagnosed persons who are out-of-HIV-care (OOC) facilitates initiation of antiretroviral therapy (ART) and improves quality of life and reduces onward HIV transmission. Uncoordinated efforts by health departments or clinical providers to identify OOC individuals and re-engage them into HIV care have limitations.

Methods: The New York City (NYC) Department of Health and Mental Hygiene (DOHMH) collaborated with a NYC HIV clinic located in a neighborhood with high HIV prevalence and high patient attrition. Surveillance and clinic visit data were used to identify OOC persons (no labs or visits ≥9 months). DOHMH disease intervention specialists (DIS) obtained patient locating information from public health surveillance and social services databases. Clinic-based patient navigators used DOHMH-provided information to locate OOC patients and re-engage them in care. DIS made additional attempts to locate persons not found by clinic navigators or persons refusing to re-engage into care at the partnering clinic. Coordination of services and outcomes were reviewed during bi-weekly case management meetings.

Results: From March 2016-October 2017, 150/184 (82%) presumed OOC persons were traced; 64/150 (43%) were confirmed OOC, 49% had moved out of jurisdiction, 3% died, 5% were current-with-care, and 3% were HIV-uninfected. Most OOC persons were male (58%), black/non-Hispanic (86%), US-born (64%), OOC >5 years (83%); median age at diagnosis was 32 years (IQR=20). Forty-eight of the 64 OOC persons (75%) re-engaged in care (median 26 days to re-engagement (IQR=42); 25% refused. Thirty-nine of 48 (81%) were re-engaged in care at the collaborating clinic. Overall, 35/48 (73%) persons achieved viral suppression within three months of re-engagement in care.

Conclusions: Collaborations and information exchange between health departments and HIV clinics to identify OOC persons or persons in care but without recent laboratory reports in the surveillance registry can improve efficiency of re-engagement efforts and outcomes for OOC persons.

23 Current US Guidelines for Prescribing HIV Pre-Exposure Prophylaxis (PrEP) Disqualify Many At-Risk and PrEP-Motivated Women

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Background: The Centers for Disease Control and Prevention (CDC) guidelines have been widely adopted as clinical standards for providing PrEP to patients. They include PrEP eligibility criteria for heterosexual women, but state two versions of criteria ("summary guidance" and "recommended indications") that diverge in a potentially critical way: Both require women's knowledge of their own HIV risk behavior, but only the recommended indications require women to also know their partner's HIV risk or recognize a potentially asymptomatic STI. This study examined how the application of these different criteria affects at-risk and PrEP-motivated women's eligibility for PrEP.

Methods: HIV-negative or status-unknown women ages 18+ who recently received care at Connecticut Planned Parenthood centers completed a 2017 online survey assessing PrEP eligibility according to both versions of criteria. Participants also reported indicators of HIV risk (e.g., condomless sex), indicators of PrEP motivation (e.g., self-perceived HIV risk), and sociodemographic characteristics.

Results: Participants (n=676) were mostly White (33.9%) or Black (35.8%); heterosexual (79.2%); and low-income (n=32, 84.4% ineligible); condomless sex with HIV-positive or serostatus-unknown male partners (n=27, 88.9% ineligible); 1+ recent STI(s) (n=53, 96.2% ineligible); multiple sex partners (n=168, 97.0% ineligible); PEP use (n=6, 100.0% ineligible); PrEP interest (n=108, 95.4% ineligible); intended PrEP use (n=211, 97.2% ineligible); and high self-perceived risk (n=5, 100.0% ineligible).

Conclusions: Current guidelines may disqualify many at-risk and PrEP-motivated women. Additionally, inconsistencies between the two versions of guideline criteria may lead to discrepant assessments of eligibility. Guideline reform is needed to improve clarity and increase PrEP access for women.

24 Virologic Rebound Among Persons Receiving HIV Medical Care in the United States: Results from the Medical Monitoring Project, 2014

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Background: Persons living with HIV (PLWH) who maintain an undetectable viral load have effectively no risk of sexually transmitting HIV. However, some patients experience virologic rebound (VR) after a suppressed viral load, suggesting a need for enhanced support. We compared characteristics of those with VR and those with durable viral suppression (DVS) among persons receiving HIV care in the United States.

Methods: Interview and medical record data were collected June 2014–May 2015 as part of the Medical Monitoring Project (MMP), a national probability survey of PLWH receiving medical care in the United States among persons with ≥2 viral load (VL) tests, we estimated the proportion in the past year with VR (started virally suppressed, became unsuppressed at any time) and DVS (all VL tests <200 copies/mL), and assessed significant differences ($p<0.05$) between these groups using Rao-Scott chi-square tests. Persons never virally suppressed and those who became virally suppressed over the time period were excluded. Data were weighted for unequal selection probabilities and non-response.

Results: Our analytic subset included 68% of the overall sample. In all, 11% experienced VR and 89% had DVS. VR was significantly higher among persons ages 18–29 compared to ≥50 (18% vs. 10%), blacks and Hispanics/Latinos compared to whites (both 13% vs. 7%), attending Ryan White-funded clinics vs. other clinics (12% vs. 6%), living in poverty versus not (14% vs. 8%), recently homeless vs. not (23% vs. 10%), recently incarcerated vs. not (25% vs. 10%), recently ART nonadherent vs. adherent (15% vs. 10%), and using stimulant drugs versus not (16% vs. 10%). Depression and binge drinking were unassociated with VR.

Conclusions: Understanding factors associated with VR may help providers identify patients at higher risk for VR so that prevention messages and interventions can be tailored to help these patients maintain viral suppression.

35 Hope for the Future: Income Generation as a Bridge to Build Adherence in HIV-Positive Rwandan Youth

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Background: In developing nations such as Rwanda, commonly-cited reasons for non-adherence often relate to lack of economic resources for medication, transportation to attend follow-up clinic appointments, food and nutritional supplements. HIV-positive youth lacking financial resources and independence are stigmatized, lack self-esteem, suffer from depression, and adhere poorly to HIV medication regimes. The objective of this project was to assist youth transitioning from adolescence to adulthood by empowering them through income-generating projects to increase independence, enhance adherence and improve mental health.

Methods: In 2013, youth, ages 17–30, attending University Teaching Hospital Kigali HIV clinic, received the opportunity to apply for funds from Groupe ICHEC/ISFSC and Wallonie Bruxelles International for individual or collaborative income-generating enterprises. Forty projects involving 61 youth (35 male, 26 female) were financed in enterprises such as crafts, farming, bike and car taxi, clothing sales, and hairdressing. All received training in creating business plans and leadership concepts from NGOs, including USAID. Participants were required to open bank accounts and attend bi-weekly supportive group counseling. A youth committee trained in peer support methods by Women's Equity in Access to Care and Treatment (WE-ACTx) followed all participants regularly for three years and met regularly with the clinic management committee (project director, clinic director, three social workers).

Results: All youth participating in the project continued their clinic treatment regime regularly: 17/55 youths (31%) had a viral load.

Conclusions: Based on these encouraging results, the project continues in two health facilities outside Kigali.

36 Engagement in Mental Health Care is Associated with Higher Cumulative Drug Exposure to Antiretroviral Therapy

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Background: Mental health (MH) disorders are more prevalent in HIV-infected individuals than in the general population, and may contribute to suboptimal antiretroviral therapy (ART) adherence. This study evaluated whether engagement in MH care, defined as at least one visit that addressed and managed MH within the previous 12 months, is associated with cumulative ART adherence and exposure quantified using intracellular tenofovir-diphosphate (TFV-DP) concentrations in dried blood spots (DBS).

Methods: DBS were prospectively collected from HIV-infected participants taking tenofovir disoproxil fumarate (TDF)-containing ART. TFV-DP in DBS was quantified using a validated LC-MS/MS method. The association between TFV-DP concentrations and engagement in MH care was analyzed using multiple linear regression that adjusted for age, gender, race, BMI, serum creatinine, CD4+ T-cell count, ART class, duration on current ART, and presence of a pharmacological booster. TFV-DP concentrations are presented as percent difference (95% CI) and model-adjusted geometric mean [95% CI] fmol/punch.

Results: Data from 521 participants (287 with a MH disorder [anxiety, mood, substance use, or other]) were analyzed. Viral suppression (<20 copies/mL) was observed in 347 participants (187 with a MH disorder, 160 without, P=0.44). Participants with a MH disorder engaged in MH care had 39% (15, 68) higher TFV-DP concentrations (1,587 [1,304,1,930]) compared to participants with a MH disorder not engaged in MH care (1,142 [916,1,425]), P=0.0008, and similar TFV-DP concentrations to participants without a MH disorder (1,456 [1,212,1,750]), P=0.24. Among those with a MH disorder, a greater proportion of participants engaged in MH care were virologically-suppressed (143/204, 70%) compared to participants not engaged in MH care (44/83, 53%), P=0.006.

Conclusions: Engagement in MH care is associated with higher cumulative ART exposure. Further research on HIV-infected individuals with MH disorders is needed to identify the mechanism for these findings, with the goal of optimizing engagement and retention strategies that could improve ART adherence and clinical outcomes.

39 Impact of a Brief PrEP Training for Family Planning Providers on Their HIV Prevention Counseling

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Background: Pre-exposure prophylaxis (PrEP) is underutilized by US women. Public family planning (FP) clinics are vital sources of care for women in high HIV burden areas and could be ideal PrEP delivery sites. Yet, many FP providers lack knowledge about PrEP.

Methods: We provided a 1.5-hour PrEP informational training for 28 providers and staff working in four public FP clinics in Atlanta, GA, that previously were not providing PrEP services. To assess the training's impact on PrEP counseling and interest, we enrolled 500 female FP patients after the clinic training (47% <28 years; 69% Black; 12% Hispanic) and determined their PrEP eligibility from self-reported data based on Centers for Disease Control and Prevention (CDC) guidelines. We conducted a post-visit survey to assess provider counseling, and further queried patients' interest in PrEP and acceptance of off-site PrEP referral.

Results: From pre- to post-training, provider PrEP knowledge (t=-5,62, p<.001), and confidence to screen (t=-3.61, p=.001) and identify potential PrEP candidates (t=-3.23, p=.003) significantly increased. The majority (76%) of women saw a provider who participated in the PrEP training. Only 19% of women knew about PrEP before the visit. Among 376 sexually-active women, 29% reported HIV risk consistent with PrEP eligibility. Among PrEP-eligible women, 72 (66%) reported the provider discussed PrEP, 32 (29%) were interested in taking PrEP, but only 20 (18%) were interested in a referral for off-site PrEP services. Most (79%) were willing to take PrEP if provided by the FP clinic.

Conclusions: After a brief PrEP training for FP providers, most women with HIV risk indicators received PrEP counseling during FP visits. Once counseled, women expressed interest if it were offered at the FP clinic rather than through off-site referral. These findings highlight the potential impact that PrEP capacity building within public FP clinics in high HIV burden areas may have on PrEP scale up for women.

48 HIV Prevention Coverage in an Urban Underserved Hospital Center in New York City

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Background: Pre-exposure prophylaxis (PrEP) with TDF-FTC (tenofovir-emtricitabine) has proven to be an effective tool for preventing HIV, but relies heavily on medication continuity. We reviewed the outpatient prescribing of PrEP at a large municipal health center to assess prophylaxis coverage.

Methods: Electronic health records of patients receiving care in adult internal medicine ambulatory clinics at New York City Health+Hospitals/Bellevue between January 1, 2014 to July 30, 2017 were queried for TDF-FTC prescriptions given solely for HIV prevention. We collected visit histories, demographics, testing for HIV, provider data and prescriptions for TDF-FTC, including the number of pills dispensed and refills. To assess continuity of prophylaxis, we defined a "coverage ratio" (CR) as the ratio of daily pill doses prescribed to time in clinic over which they were provided. We examined the association between this ratio and patient and provider characteristics using logistic regression.

Results: 57 patients received a total 249 TDF-FTC prescriptions for HIV prevention. 93% were male, 40% identified as white, 16% as black/African American and the remainder was non-identified. Median age was 40 years (quartiles 30, 47). 40% were self-pay, 28% had commercial insurance, 10% Medicaid. Among 19 providers, one was responsible for 28% of TDF-FTC prescriptions. Among the cohort, there were 78.6 patient-years between initial TDF-FTC prescription and most recent clinic visit in the surveyed interval. Median time per patient after first TDF-FTC prescription was 1.19 years (quartiles 0.52, 1.38). The mean number of prescriptions per patient was 4.4 (median 3, quartiles 1, 6). There were 36,347 daily doses of TDF-FTC prescribed for a total of 28,695 patient days. 37% of patients had less than complete PrEP coverage (CR<1) and 21% of patients had less than 50% coverage (CR<0.5). In logistic regression, no determinant was associated with increased coverage.

Conclusions: In our cohort, HIV preventative coverage assessed by the ratio of daily doses prescribed to, that needed to ensure medication continuity revealed significant gaps, with over a third of patients left without complete coverage. This may represent challenges to care coordination in the absence of a stand-alone clinic with sufficient resources to provide comprehensive HIV prevention services.

49 Couples Intervention Improves Adherence to HIV Prevention Among Pregnant Women and Male Partners in Kenya

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Background: Pregnancy is a time of heightened HIV risk, necessitating that couples adhere to HIV prevention behaviors to prevent horizontal and vertical HIV transmission. Strengthening couple relationships may be an effective way to improve couples' uptake and adherence to HIV prevention behaviors.

Methods: We conducted a randomized controlled pilot study of a home-based couples' intervention in southwestern Kenya. The intervention included health education, couple relationship-building skills, and offer of Couples HIV Testing and Counseling (CHTC). We randomized women attending antenatal clinics (half HIV-positive) to receive the intervention (n=64) or standard care (n=63), subsequently contacting their male partners for enrollment. This analysis was conducted among couples with data from women and male partners (n=96 couples) who were followed postpartum. Adherence to biomedical and behavioral HIV prevention was measured on a single Likert scale (0–4) based on self-reported items regarding antiretroviral use, condom use, staying faithful to one partner, participating in CHTC, and exclusive breastfeeding. We assessed pathways for the effects of the intervention on HIV prevention using logistic regression and dyadic (actor-partner) structural equation modeling.

Results: Of 96 couples, 84 (87.5%) were followed three months postpartum. At follow-up, 53.5% of couples reported successful adherence to biomedical and/or behavioral HIV prevention behaviors. The intervention condition was associated with greater odds of HIV prevention adherence (OR=2.88, 95%CI=1.18–7.00). In a structural equation model, the intervention led to moderate improvements in couple communication, which had strong effects on couple efficacy to act on HIV decisions. Couple efficacy, in turn, had moderate effects on HIV prevention behaviors. This pathway of communication to efficacy fully mediated the intervention effect on HIV prevention behaviors (final model fit RMSEA=0.048, CFI=0.962).

Conclusions: A home-based couples' intervention has potential to strengthen couple communication and efficacy, which may lead to increased adherence to HIV prevention behaviors.

52 Integrating Routine, Opt-Out HIV Testing in a North Carolina Academic Tertiary Center's Emergency Department

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Background: The Southeastern United States bears a disproportionate burden of HIV infection, accounting for nearly half of all new cases. The Centers for Disease Control and Prevention (CDC) released routine opt-out testing recommendations in 2006. Our emergency department collaborated with our infectious diseases clinic (ECU-ID) to implement suggested guidelines among adults since March 2017.

Methods: Our primary aim was to implement routine, opt-out HIV testing in the Vidant Medical Center Emergency Department (ED) for patients between 18–65 years of age who have blood work completed, and have not had a test documented in the electronic medical record (EMR) in the last completed, and have not had a test documented in the electronic medical record (EMR) in the last year. A secondary aim was to successfully link HIV-positive patients to care at ECU-ID or preferred clinic. Methods defining programmatic success included developing nurse directed opt-out ordering protocol, integrating testing into normal ED workflow, utilizing the existing EMR to prompt testing, and hiring a linkage coordinator to initiate posttest counseling and linkage-to-care.

Results: Over the last 11 months, 6,681 tests were performed with an average of 606 tests each month compared to a previous average of 10 tests per month. Testing has increased by 5,421% compared to 2015. Of the 19 HIV-positive patients found, 14 were newly diagnosed. Among those newly diagnosed, 12 (86%) were linked into care; and among the five known positives two (40%) were linked to care. Reasons for not linking to care included incarceration, refusal, and relocating. The most reported reasons for presenting to the ED were pain (4, 21%) and sore throat (3, 16%).

Conclusions: Joined with the implementation of a routinized ED HIV testing program, a seamless process was developed to link persons found to be positive in the ED to HIV care services, therefore, establishing a systems-level prevention model. Future plans include expanding testing among adolescents and utilizing similar methods to integrate hepatitis C testing.

56 Association of Increased Chronicity of Depression with HIV Appointment Attendance, Treatment Failure, and Mortality Among HIV-Infected Adults in the United States

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Background: Depression commonly affects people living with HIV (PLWH) and complicates management of HIV. Depression among PLWH tends to be chronic and cyclical, but the impact of this chronicity on HIV outcomes (and the related potential for screening and intervention to shorten depressive episodes) has received little attention.

Methods: We analyzed data on 5,927 adults receiving HIV primary care at six geographically dispersed US academic medical centers. Consecutive depressive severity measures were converted into a time-updated measure: percent of days with depression (PDD). We examined the relationship between increased PDD and multiple HIV care continuum indicators: HIV appointment attendance, treatment failure, and mortality.

Results: Over 10,767 person-years of follow-up, participants spent a median (IQR) of 14 (0–48) PDD. During follow-up, 19% of scheduled visits were missed, 22% of viral loads were detectable, and the mortality rate was 1.5 deaths/100 person-years. PDD showed a dose-response relationship with each outcome. Each 25% increase in PDD led to an 8% (95% CI: 5-11%) increase in the no-show risk for scheduled appointments, a 5% (1–9%) increase in the risk of a detectable viral load, and a 19% (5–36%) increase in the mortality hazard. Thus, compared to those who spent no follow-up time depressed (PDD=0%), those who spent the entire follow-up time depressed (PDD=100%) faced a 37% (22–53%) increased risk of missing appointments, a 23% (6–43%) increased risk of a detectable viral load, and a doubled mortality rate (HR=2.02; 1.20–3.42).

Conclusions: Greater chronicity of depression elevated the likelihood of failure at multiple points along the HIV care continuum. Even modest increases in the proportion of time spent depressed led to clinically meaningful increases in negative outcomes. Prompt identification and treatment of depression among PLWH to shorten the course and prevent the recurrence of their depressive illness has the potential to improve their clinical outcomes.

61 Disseminating Evidence-Based Approaches in a High-Risk US-Mexico Border Community for Pragmatic HIV Prevention in Minority Women

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Background: The Mujer Saludable, Familia Feliz program funded by US-DHHS SAMHSA (Grant 1H79TI080065-01) implements evidence-based interventions to address multiple contexts of care in HIV preventions including Substance Use Disorder (SUD), among minority women in El Paso, TX, a US-Mexico border city.

Methods: The Evidence Based Interventions (EBIs) implemented were Screening, HIV and HCV testing and care, sexual assault support groups and bystander intervention for addressing violence, safer-sex promotor-delivered interventions, and healthy nutrition. Implemented since October 2016, the interventions address intersecting risk contexts for HIV. Dissemination of prevention and treatment information are done in-person and through social media.

Results: Outreach education and recovery services reached 2,027 individuals: (377 for safer sex awareness; 637 for violence prevention; 734 for bystander intervention; and, 279 for nutrition). A total of 9,312 community members were reached through social marketing (flyers, Facebook and Instagram etc.). As of this date, the program has administered 634 HIV tests. Of the 674 women who were offered HIV/HCV testing, 91% are Hispanic (53% of women between ages 18–34), 62% having received a previous HIV test with only 7% having had a previous hepatitis C test, with almost 30% indicating engaging in unprotected sex with a male in the past 30 days; 69% of women reported having unprotected sex with a significant other in a presumed monogamous relationship in the past 30 days. Implementation issues encountered include recruitment in networks due to existing stigma to HIV and discussion of sexual health, barriers to client follow-up due to the US-Mexico border milieu, and training personnel for multi-site interventions.

Conclusions: Engaging network members (particularly males) in bystander interventions, training promotors in intervention delivery and recruitment of clients, providing testing and screening with EBI classes, and working with community partners like the department of public health and violence prevention center will enhance retention and follow up.

65 A Multi-Year, Multidisciplinary Quality Improvement Approach to Improve HIV Treatment Adherence

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Background: The East Carolina University HIV Program (ECUHIVP) is the primary provider of HIV treatment in a 28-county area of eastern North Carolina. In 2011, ECUHIVP learned they were not meeting national standards of 85% treatment adherence (defined as: achieving viral load suppression, attending two medical visit appointments, and having blood-work drawn at each appointment within a 12-month period). Viral load suppression, outpatient visits, and viral load lab outcomes in 2011 were equal to 60%, 64%, and 50%, respectively. ECUHIVP used baseline data to implement quality improvement strategies to meet national measures.

Methods: A series of Plan-Do-Study-Act or PDSA cycles were used to facilitate changes across multiple trials over the course of five years. ECUHIVP developed and implemented a continuous quality improvement plan to boost each measure to 85% therefore meeting national standards by the end of 2016.

Results: Between years 2012–2016, ECUHIVP found various barriers to treatment adherence among clients, which included lack of transportation and housing, inability to schedule clients' appointments more than six months away, need for medication assistance, and untreated substance abuse or mental illness. Across several cycles the team addressed each issue by funding transportation with gas cards or cab rides; providing emergency financial assistance and housing services to eligible persons, hiring both a dedicated pharmacist and behavioral health specialist, and reforming appointment policy to allow clients' appointments to be scheduled at least 18 months in advance. At the end of 2016, viral load suppression increased to 84%; medical visits, 77%; and laboratory work, 71%.

Conclusions: Although ECUHIVP did not reach the 85% national benchmarks in 2016, the consistent change in in RIC and VLS, the value of working with a multidisciplinary team, and the changes across several PDSA cycles over a 5-year period is noteworthy. Efforts to meet national standards continue to be assessed for 2017.

75 Retention on Treatment Among Patients Transferring Between ART Services in Nigeria

Juliet Adeola (presenting)

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Background: Retention on antiretroviral therapy (ART) is a major challenge among patients transferring between ART sites with the scale up of ART services in Nigeria. This study was conducted to determine retention on ART and associated factors among patients transferring their ART services between facilities in a large ART program in Nigeria.

Methods: We conducted a retrospective cohort analysis of 2,158 patients on ART who were recorded as transferred out (TFO) on APIN's electronic medical record system between June 2012 and July 2015. We constructed a multivariable logistic regression model to determine the factors associated with retention on ART among patients transferring between facilities within the APIN program.

Results: Of the 2,158 participants TFO, 475 (22%) transferred from one APIN supported treatment facility to another within the study period. Two hundred and eighty (280) out of the 475 transferred patients (59%) were retained on ART at the end of July 2015. Factors that were strongly associated with retention on ART after adjusting for other factors in the model included transfer between facilities within the same state in Nigeria (OR=2.85, CI 1.57–5.17), having a secondary level of education (OR=2.07, CI 1.12–3.84) and being part of a more recent ART enrollment cohort, 2012–2015 (OR= 2.96, CI 1.63 –5.37). Participants with longer ART supply (more than 30 days) at the point of TFO were more likely to be lost to follow up after TFO (OR=1.69, 95% CI 1.17–0.244).

Conclusions: A growing proportion of patients are transferring between ART services with the scale up of ART in Nigeria. Innovative strategies are needed to track, link and retain patients on ART after TFO. Patients transferring between ART services outside the state of ART initiation and those with earlier ART enrollment will require reinforced adherence counselling.

79 Socioeconomic Empowerment Loans Enhance Retention in Care Among HIV-Positive Persons Receiving Antiretroviral Therapy in Uganda

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Background: Poor retention in HIV care is well documented, but evidence of long term remedial interventions is limited. Various factors affect retention, transport costs remaining key. A Social Economic Empowerment Project (SEEP) in AIDS Healthcare Foundation (AHF) facilities in Uganda improves livelihoods of people living with HIV (PLHIV) through the provision of loans.

Methods: Data is from eight AHF supported facilities. Included were clients ≥18years who enrolled between 2011 and 2016. Clients eligible for a SEEP loan are ≥18 years on ART and run an income generating activity. Using Kaplan Meier survival methods, we estimated the probability of being lost to program (LTP, observed death or loss to follow-up -LTFU- defined as not being seen >90 days). We estimated survival probabilities at 6, 12, 24 and 36 months, used Cox Proportional Hazards models to estimate the association between receiving a loan and retention, adjusting for other potential confounders and accounting for within clinic correlation. All analyses were performed in STATA.

Results: A total of 61,263 patients ≥18 years were enrolled, 67.9% female, median age 21 years, median CD4 count 321cells/uL. A total of 1,230 (2.0%) patients received loans (62.8% female). Retention was higher among patients with loans. After three years, 93.1% (95%CI:91.5–94.4) of clients receiving a loan remained in care compared to 67.3% (95%CI:66.8–67.7) P<0.001. Majority (60.5%) of patients received >2 loans, increasing retention to 96.8% (95%CI:95.2–97.8) compared to 87.3% (95%CI:84.0–90.1) P<0.001. Patients with loans have a 83% lower risk of dropping out of care Hazard Ration (HR) 0.17 (95%CI:0.12–0.24) after adjusting for age, gender, CD4 count and WHO clinical stage.

Conclusions: The provision of financial loans to ART patients boosts retention in care. PLHIV who often face challenges in adherence due to limited economic capacity, will benefit from loans to ensure adherence to ART.

83 Longitudinal Engagement Trajectories and Risk of Death Among New ART Starters in Zambia

Aaloke Mody (presenting)[1], Ingrid Eshun-Wilson[2], Sheree Schwartz[3], Kombatende Sikombe[4], Sandra Simbeza[4], Njekwa Mukamba[4], Paul Somwe[4], Carolyn Bolton-Moore[4], Nancy Padian[5], Charles Holmes[6], Izukanji Sikazwe[4], Elvin Geng[1]

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Background: Identifying distinct engagement phenotypes can deepen our understanding of retention and help to better target interventions. We identify groups exhibiting distinct patterns of engagement and assess the association between group membership and mortality among new ART starters in Zambia.

Methods: We analyzed a cohort of HIV-infected adults that newly started ART between August 1, 2013 and July 31, 2015 across 64 clinics in Zambia. We performed group-based multi-trajectory analysis to identify subgroups with distinct trajectories in medication possession ratio (MPR) over the past three months and loss to follow-up (LTFU, >90 days late for last visit) among patients with at least 180 days of observation time. We estimated the risk difference for mortality between trajectory groups after performing a modified Poisson regression weighted for outcomes ascertained from random tracing of patients LTFU and death and adjusted for sociodemographic and clinical factors.

Results: 38,930 patients (63.3% female; median age 35y [IQR 29–41], median enrollment CD4 280 cell/µl [IQR 146–432]) newly initiated patients were included in our cohort. We identified six trajectory groups among new ART starters: (1) consistently high MPR and retention (29.8%); (2) suboptimal adherence early with late recovery/consistent retention (27.6%); (3) gradually decreasing MPR and retention (15.5%); (4) early nonadherence/LTFU with late recovery (9.1%); (5) early non-adherence/LTFU without recovery (10.2%); and (6) late nonadherence/LTFU without recovery (8.0%). After adjustment, those in the Group 4 (risk difference +2.2%, CI -1.1 to +5.6%), Group 5 (RD +5.4%, CI +1.0 to 9.9%), and Group 6 (RD +7.4, CI +1.4 to +13.4%) had higher risk of mortality as compared to Group 1.

Conclusions: Among new ART starters, we identified groups with distinct engagement trajectories that were associated with marked differences in subsequent risk of mortality. Understanding these underlying behavioral phenotypes and the drivers of different engagement patterns can help guide efforts to improve care delivery in this population.

86 Electronic Drug Monitoring of Infant Adherence to Antiretroviral Therapy Prophylaxis

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Background: Option B+, the current World Health Organization (WHO) guidelines for prevention of maternal to child transmission of HIV (PMTCT), recommends six weeks of postnatal antiretroviral therapy (ART) prophylaxis for HIV-exposed infants. There is limited knowledge about infant adherence to ART prophylaxis. We present the first study utilizing electronic drug monitors (EDM) to estimate adherence to ART prophylaxis in HIV-exposed infants.

Methods: This study was conducted at Mityana District Hospital (MDH) in central Uganda from July–December 2016. We enrolled HIV-positive pregnant women with gestational age >24 weeks intending to deliver at MDH and consented to use an EDM bottle containing nevirapine (NVP) syrup. The EDM recorded the date and time of bottle openings, without providing feedback to participants. Maternal characteristics were collected at enrolment; data were downloaded from EDM bottles after return. Adherence was calculated as proportion of daily doses administered within the first 42 days.

Results: 50 women consented to participate and 28 received an EDM bottle; 22 did not due to non-MDH delivery, maternal or infant death, or device refusal at discharge. A total of 27 of 28 EDM caps were returned; one cap had no stored data. Median duration of EDM possession was 45 days (range 34–85). Mean infant adherence was 70%; 92% of infants missed at least one dose in the first 42 days. Only 27% of infants had 90% adherence. There were no significant associations between maternal characteristics, including duration of maternal ART or parity, and infant's adherence to NVP.

Conclusions: In this first study to present data on adherence to ART prophylaxis among HIV-exposed infants, adherence was poor over the first six weeks of life. The infant component of PMTCT is an attractive candidate for future EDM devices and strategies to improve adherence, as ART adherence is a time-limited period (six weeks) for most HIV-exposed infants.

87 Development of a Point-of-Care Immunoassay for Quantitating Tenofovir in Urine as a Real-Time Metric of PrEP Adherence

Monica Gandhi (presenting)[1], Warren Rodrigues[2], Matthew Spinelli[1], Catherine Koss[1], Peter Bacchetti[1], Hideaki Okochi[1], Guohong Wang [2], Michael Vincent[2]

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Background: Pharmacologic adherence measures predict PrEP effectiveness better than self-report. Urine is accessible/noninvasive to collect, but current methods to analyze PrEP drugs in any matrix (urine, plasma, dried-blood-spots, hair) require liquid-chromatography/tandem-mass-spectrometry (LC/MS-MS) which cannot be performed real-time. A point-of-care (POC) assay to analyze tenofovir in urine is needed.

Methods: The UCSF Hair Analytical Laboratory, with expertise in LC/MS-MS, formed a collaboration with Alere™, with expertise in POC diagnostics. Haptens were identified on tenofovir, synthesized as immunogens, and injected into rabbits. Rabbits were bled monthly to evaluate for antibodies that bind to enzyme-labeled tenofovir derivatives. After eight months, an antibody was purified that showed specific binding to a tenofovir-derivative and inhibition of signal with adding tenofovir into the mix to create dose-response-curves. Urine from 110 healthy volunteers was screened via enzyme-linked-immunosorbent-assay (ELISA) based on the newly-developed antibody. Five subjects took tenofovir-disoproxil-fumarate/emtricitabine 300/200mg for seven days and collected urine at subsequent timepoints. Concentrations of tenofovir in split samples were estimated via ELISA, measured by LC/MS-MS, and compared. Coefficients of variation (%CV) on repeated runs determined precision.

Results: None of the 110 negative samples showed ELISA-reactivity. Every urine sample positive (≥500 nanograms/milllilters) for TFV by LC/MS-MS was positive by the ELISA-immunoassay. TFV concentrations in urine estimated by ELISA and measured by LC/MS-MS were highly correlated (r 0.99). %CVs for all ELISA-estimated concentrations were low (<15%).

Conclusions: We developed the first real-time immunoassay to detect tenofovir in urine or other fluids. Our immunoassay-estimated concentrations are highly correlated with the gold standard of LC/MS-MS-measured concentrations. The selected antibody is suitable for a lateral flow immunoassay to develop a rapid strip test, similar to technology used for POC urine toxicology screens. Adherence benchmarks and tenofovir washout cut-offs for this specific and sensitive immunoassay will be established. Real-time PrEP adherence monitoring via this POC immunoassay with subsequent intervention/feedback should optimize outcomes.

103 HIV Care Cascade Before and After Hospitalization in a Safety Net Hospital: Impact of a Multidisciplinary Inpatient Intervention

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Background: Though HIV has essentially become an outpatient disease, many HIV patients experience inpatient admissions, particularly individuals who are not retained in HIV care or who are nonadherent to medications. Inpatient admission is therefore a critical time period to implement re-engagement initiatives.

Methods: A retrospective chart review of patients with HIV admitted to Parkland Health and Hospital Systems between January 1, 2013 – September 30, 2014 was conducted. Among patients with ≥1 prior HIV outpatient visit within the hospital system, we assessed the following prior to and after hospitalization: retention in care (2 HIV care visits >90 days apart within 12 months), engagement in care (≥1 HIV visit within six months), HIV viral load (prior to admission: most recent; after admission, value closest to 12 months after discharge). We measured retention, engagement, and viral load (undetectable defined as <200 copies/mL) for individuals admitted before and after October 1, 2014 (when multidisciplinary HIV team began).

Results: Among 1,104 individuals, 69% were men, 56% were African American, 20% White and 22% Latino. Prior to October 2014, the change from before to after admission for engagement in care was 67% v 84% (an increase of 17), compared to after this date, where 63% increased to 81% after admission (increase of 18). A stable 10-point increase (45% to 55%) was seen in retention in care after hospitalization in both groups. Viral load suppression increased by 15 (44% to 59%) before 2014 and by 20 (43% to 63%) after that date.

Conclusions: A substantial increase in engagement in care, retention in care, and virologic suppression was seen after hospitalization among patients with HIV. Somewhat larger improvements were seen after the implementation of an inpatient multidisciplinary HIV team. Inpatient interventions may be an important component of improving the HIV care cascade in vulnerable populations.

115 HIV Treatment Interruptions are Associated with Heightened Systemic Inflammation, Despite Viral Suppression

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Background: Immune activation, which predicts non-AIDS clinical outcomes, persists despite virologic suppression. We previously demonstrated that average antiretroviral therapy (ART) adherence correlates with inflammation among people with virologic suppression. Yet, ART treatment interruptions predict virologic suppression independent of average adherence. We assessed the effect of interruptions on inflammation among Ugandans living with HIV who achieved viral suppression (<400 copies/mL) after ART initiation.

Methods: CD8 T cell activation (CD38/HLA-DR) and plasma levels of interleukin-6 (IL-6), soluble (s)CD14, sCD163, the kynurenine/tryptophan (K/T) ratio and D-dimer were measured just prior to and six months after ART initiation. ART adherence was monitored electronically. Time spent in treatment interruption was quantified as the proportion of days when the running average adherence (+/- 4 days) was <10%, distinguishing time spent in intermittent treatment interruptions from low overall adherence without frank interruptions. We fit adjusted linear regression models of the log-transformed levels of each biomarker. A secondary analysis adjusted for average adherence (percentage total missed doses over 6 months).

Results: Among 282 participants (70% female, median age 35), median CD4 and log viral load at baseline were 135 cells/mm^3 and 5.1 log10copies/ml, respectively. Each 5% (or 9 day) increase in time spent in interruption was associated with higher IL-6 (+12.2%, p=0.008), D-dimer (+7.8%, p=0.013), K/T ratio (+4.7%, p=0.001), sCD163 (+4.6%, p=0.002) HLA-DR+/CD8+ (+2.6%, p=0.018) and sCD14 (+3.1%, p<0.001). Findings were robust to a <20% threshold across all biomarkers. Additionally, findings remained significant for most biomarkers when adjusting for total average adherence; average adherence itself was not associated with any biomarkers.

Conclusions: Increasing time spent in ART treatment interruptions is associated with increased immune activation among Ugandans living with HIV who achieved viral suppression early after ART initiation, even after adjustment for total average adherence. This suggests that sustained ART interruptions may have significant immunologic effects in this setting.

118 An Online Survey of HIV Testing and Pre-Exposure Prophylaxis Attitudes and Practice Habits Among Physicians at an Academic Medical Center

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Background: In addition to the crucial importance of diagnosing new cases of HIV, testing initiatives also represent a unique opportunity to engage HIV negative individuals in HIV prevention. Adolescents are at high risk of HIV and STIs and engaging pediatricians in primary and secondary HIV prevention efforts is critical. We conducted a survey of provider attitudes and practice habits around HIV/STI screening and pre-exposure prophylaxis services.

Methods: From August 2017 to February 2018, we conducted an anonymous online survey about sexual health services to providers at NewYork-Presbyterian Hospital/Columbia University Medical Center. Of the 173 initiated surveys, 125 were completed and nine were excluded.

Results: A total of 63% of the 116 respondents were residents with 50 (43%) from the Department of Pediatrics. Pediatricians were more likely to take a sexual history than non-pediatric providers (76% vs 44%, p=.000). The majority of providers agreed that HIV screening was one of their job responsibilities (80% vs 69%, p=0.187) however pediatricians were less likely to consider (48% vs 69%, p=0.023) or successfully screen the majority of their patients for HIV (34% vs 52%, p=0.049). Pediatric providers were less knowledgeable about PrEP (30% vs 48%, p=0.053) and less comfortable assessing patients for PrEP (20% vs 45%, p=0.004). Few providers evaluate the majority of their patients for PrEP (4% vs 17%) or would feel comfortable providing PrEP services (16% vs 28%). 78% of pediatricians and 66% of non-pediatric providers listed a lack of formal PrEP training as the top barrier to the provision of PrEP services.

Conclusions: The majority of providers recognized the importance of HIV testing and linkage to prevention services. Pediatric providers were less likely to consider or successfully screen patients for HIV. Structural factors and lack of training were most common barriers to HIV screening and initiating PrEP linkage, respectively highlighting opportunities for targeted interventions.

121 The Association of Antenatal Depressive Symptoms with Postpartum Viral Suppression and Engagement in Option B+ HIV Care in Malawi

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Background: With the scale up of universal antiretroviral treatment (ART) for HIV among pregnant and postpartum women in many countries in sub-Saharan Africa, challenges in long-term engagement in HIV care have emerged. Engagement in care may be hindered by antenatal depression, a common condition of pregnancy, yet most sub-Saharan African countries do not conduct systematic screening for antenatal depression. Estimating the association of antenatal depressive symptoms with postpartum HIV care engagement and treatment outcomes can inform options for programmatic improvements.

Methods: Women initiating antiretroviral therapy for HIV were recruited from a government antenatal clinic in Malawi in 2015–2016 into a cohort study (n=299). Antenatal depressive symptoms were assessed on the day of ART initiation with the Edinburgh Postnatal Depression Scale (EPDS). We estimated crude and adjusted risk differences (RD, aRD) and prevalence differences (PD, aPD) of two HIV care outcomes (attendance at HIV care visits [RD] and viral suppression through 12 months post-ART initiation [PD]) comparing women with versus without antenatal depressive symptoms.

Results: One in ten women screened positive for antenatal depressive symptoms. Most women were engaged in care through 12 months post-ART initiation: 85% attended all scheduled HIV visits, and 81% were in care and virally suppressed. Women with and without antenatal depressive symptoms had a comparable probability of attending all scheduled visits (RD: -0.02; 95%CI -0.16–0.12; aRD: -0.04; 95%CI -0.18–0.10), and of viral suppression (PD: -0.02; 95%CI-0.17–0.13; aPD: -0.01; 95%CI -0.17–0.15).

Conclusions: Presence of antenatal depressive symptoms did not notably affect the probability of remaining engaged in HIV care through 12 months post-ART initiation. Our population was highly engaged in postpartum HIV care. In a population with high HIV care engagement, antenatal depression may not impair HIV-related outcomes.

125 Younger Female Patients Had the Highest Rate of Failure to Restart HIV Antiretroviral Therapy: An Analysis of 12 Years of US Medicaid Data

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Background: Persistence with antiretroviral therapy (ART) is vital in people with HIV. Little is known about restarting ART in those who have stopped therapy. We therefore examined: (1) rates of not restarting an ART after stopping and, (2) factors associated with failure to restart in a large cohort.

Methods: We studied fee-for-service Medicaid patients with HIV from the 14 US states with the highest HIV prevalence, 2001–2012. Our sample included those who started ART (i.e., ≥2 fills of a 3-drug ART regimen), and then stopped for ≥90 days. Variables documented at the index date: age (<45 or 45+ years), sex, race/ethnicity, state and calendar year. Prior health care use in six months before stopping: duration of ART persistence (<6 or 6 months), hospitalizations (0 or 1+), outpatient visits (tertiles), and comorbidities. We used multivariable logistic regression to examine the association between these factors and failure to restart ART during the 18-month follow-up after stopping.

Results: There were 30,384 patients who had stopped ART (mean age: 42.3 years; females: 47.8%; black: 55.1%; white: 18.7%). Overall, 57% failed to restart during follow-up, with the highest rate in younger females (62.5%). Younger patients (aOR 1.13; 99% CI 1.06–1.21), females (aOR 1.15; 1.08-1.22), shorter persistent duration before stopping (aOR 1.71; 1.60–1.83) and hospitalization (aOR 1.12; 1.14–1.29) increased odds of not restarting during follow-up. More outpatient visits were strongly associated with lower odds of not restarting (aOR 0.50; 0.45–0.55). Compared with NY, people in many other states had higher odds of not restarting.

Conclusions: It is concerning that 57% of patients had not restarted ART at 18-months. Risk factors for not restarting that can be targets for clinical interventions and include younger females and disengagement with care (not having outpatient visits). State-level variations may partially be explained by differences in Medicaid eligibility and benefits.

128 Physicians and Practices Account for Significant Variation in Antiretroviral Therapy Adherence

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Background: To care for patients with HIV, it's imperative to understand the drivers of antiretroviral adherence. We use data from the U.S. Medicaid program to evaluate how variation in patient adherence outcomes may be explained by a patient's physician and practice.

Methods: We used 100% Medicaid Analytic Extract (MAX) outpatient and prescription claims from 2008–2012 from 14 states (FL, GA, IL, LA, MA, MD, NC, NJ, NY, OH, PA, TX, VA, CA). We identified 152,198 patients with HIV through diagnosis codes who had any ART prescriptions. We attributed patients to the physician that provided the plurality of primary care or HIV-related services in a given year and assigned these physicians to practice based on the NPI registry file. Our primary outcome was % of year adherent to an ART regimen. We fit sequential hierarchical models with patient characteristics (managed care and dual status, race, gender, age, state, disability status, chronic condition count) and provider and practice random effects in order to partition the percent of variation in adherence driven by each factor.

Results: A total 83% of patients could be attributed to physicians and practices (125,563 patient-years). The mean % of year adherent was 68.9%. There was substantial variation in adherence across physicians (SD 18%) and practices (SD 16%). Patients who saw physicians in the top quartile of adherence had double the % of year adherent as those in the bottom quartile (median 85% vs 43%). From the hierarchical models, 10% of adherence was driven by practice, 13% by physician, and 53% by patient characteristics.

Conclusions: Over 23% of adherence outcomes were driven by provider and practice. While more research is needed to determine what practice and provider-level characteristics most contribute to this variation, our results highlight the importance of interventions targeted at provider and practice behavior in addressing ART adherence outcomes.

135 Factors Associated with Loss to Follow-Up (LTFU) Among Black Men Who Have Sex with Men (MSM) and Transgender Women (TGW) in a Community-Based Pre-Exposure Prophylaxis (PrEP) Study

Frieda Winterhalter (presenting)[1], Julie Franks[2], Yael Hirsch-Moverman[1], Hugo Ortega[1], Yingfeng Wu[2], Justin Knox[3], Wafaa El-Sadr[2], Paul Colson[1]

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Background: Loss to Follow-up (LTFU) is a challenge in research studies and health programs, limiting generalizability of findings and reach of interventions. Factors impacting LTFU among black MSM and TGW, groups disproportionately burdened by HIV in the United States but with relatively low PrEP uptake, are not well-understood. We evaluated study LTFU and associated baseline factors among black MSM and TGW enrolled in a randomized controlled trial of PrEP adherence support interventions in New York City.

Methods: Self-identified black MSM and TGW underwent medical eligibility screening, were prescribed PrEP at a community health center, and were followed by research staff at a nearby study site. Participants completed interviewer-administered baseline questionnaires assessing demographic and psychosocial characteristics, sexual risk behaviors, and substance use. A 3-item scale measured conflictual social interaction (frequency of relationship problems during the past 30 days), with higher scores indicating greater frequency of conflict. LTFU was defined as not attending 6-month study visit. We performed bivariable analyses of baseline predictors of LTFU; predictors significant at $p<.20$ were entered in multivariable logistic regression models to examine their independent effects.

Results: A total of 204 participants completed baseline study procedures; 37.3% were subsequently LTFU. In multivariable analysis, predictors of LTFU included a higher conflictual social interaction score (aOR(95%CI)=3.17(1.44–6.99); p=.004), and high school education or less (aOR(95%CI)=2.47(1.23–4.95); p=.01). No other behavioral/psychosocial factors (e.g. sexual risk behaviors, substance use, depressive symptoms) were associated with LTFU.

Conclusions: LTFU was high in this study that facilitated access to PrEP for black MSM and TGW. One structural factor (education level) and one psychosocial factor (conflictual social interaction) increased likelihood of LTFU. These findings suggest that drivers of disengagement from community-based PrEP research are complex; multidimensional strategies to support PrEP use in black MSM and TGW may be needed to realize its potential to slow the epidemic in the United States.

136 Uneven Distribution of Bacterial Sexually Transmitted Infections Among Men Who Have Sex with Men on Pre-Exposure Prophylaxis

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Background: High rates of bacterial sexually transmitted infections (STI) have been reported in men who have sex with men (MSM) receiving pre-exposure prophylaxis (PrEP). Routine screening every three months for STIs remains the standard of care for high-risk patients receiving PrEP. We report STI incidence in a cohort of predominantly Black/Hispanic MSM initiating PrEP in Upper Manhattan.

Methods: Retrospective review of 930 MSM accessing services at a comprehensive PrEP program, who were evaluated for PrEP between January 15, 2015 and December 31, 2017 and had complete demographic and STI data. Multivariate analysis and incidence calculations for chlamydia (CT), gonorrhea (GT), and syphilis testing were completed.

Results: Mean age at PrEP evaluation was 30.6 years. 22% self-identified as African-American and 39% as Hispanic. 259 patients (28%) had at least one positive STI test during the study period. There were 623 positive STI tests (274 CT, 273 GC, 76 syphilis). The rectum was most the most common site of infection (46%). 8.5% of all combined GC/CT tests and 3.6% of all syphilis tests were positive. The overall STI incidence was 1,638 per 1,000 person-years (/1,000py). Twenty-five patients (3%) had an STI incidence of 5,380/1000py and were responsible for 31% of all positive STI tests but there were no significant differences in demographic characteristics (race/ethnicity, age) between those with high STI incidence and rest of the cohort.

Conclusions: A high prevalence and incidence of bacterial STIs were observed in this high-risk MSM population. However, STI acquisition was not distributed equally as a minority of the patients were responsible for the majority of infections. STI prevention interventions may need to target a subset of the PrEP population for marked reductions in STIs to occur. Further studies are needed to understand how to identify and develop interventions for this very high-risk subgroup.

139 Factors Associated with Pre-Exposure Prophylaxis (PrEP) Adherence in Black Men Who Have Sex with Men (MSM) and Transgender Women (TGW) in a Community Setting in Harlem, NY

Paul Colson (presenting)[1], Frieda Winterhalter[1], Yingfeng Wu[2], Julie Franks[2], Yael Hirsch-Moverman[1], Hugo Ortega[1], Justin Knox[3], Wafaa El-Sadr[2]

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Background: PrEP is efficacious for HIV prevention; however, effectiveness needs to be evaluated in community settings and populations most vulnerable to HIV, including black MSM and TGW in the United States. We examined the effect of knowledge, attitudes and beliefs; perceived benefits and barriers; and barriers to medical care on self-reported 6-month adherence among 204 black MSM and TGW prescribed PrEP in a community clinic in New York.

Methods: PrEP adherence was defined as ≥87% adherence (top quartile of adherence scores). Factor analysis yielded a reliable scale (α=.0.82) of 11 variables representing negative attitudes about PrEP. Variables associated with adherence at $p<.20$ were considered for multivariable logistic regression models. Additional structural and sociodemographic variables that met this criterion were included in the final adjusted logistic model.

Results: Of the 204 participants, almost three-quarters (73.5%) were non-adherent. In multivariable analyses, PrEP adherence was associated with education level (aOR=5.00, 95% CI 1.93–12.93, $p<.001$, for college graduate vs others with less education), lower negative attitude scores (aOR=0.89, 95% CI 0.80–0.98, p=.01), knowing that PrEP did not offer protection from other STIs (aOR=4.29, 95% CI 1.19–15.50, p=.03), and participants' belief that they were more likely to have condomless anal sex while taking PrEP (aOR=2.62, 95% CI 1.24–5.52, p=.01). Those who lacked transportation to medical care (aOR=0.16, 95% CI 0.02–1.32, p=.09) were less likely to be adherent, although the results did not achieve significance.

Conclusions: Among a sample of black MSM and TGW, PrEP adherence was very low. In a population with many barriers and competing priorities, PrEP adherence was hindered by negative attitudes, one knowledge variable (not knowing that PrEP did not protect against other STIs), and one structural variable (lower education). Novel approaches are needed to address the complex multidimensional set of factors affecting adherence for groups most impacted by HIV in the United States.

146 Adherence to Antiretroviral Therapy in HIV-Infected Children in Kenya, South Africa, and Thailand

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Background: There are few data on adherence and low-cost measurement tools for HIV-infected children. We collected prospective data on adherence to antiretroviral therapy (ART) among a multi-national cohort of children to evaluate an adherence questionnaire.

Methods: We enrolled 319 children ages 0 to 16 on ART in Kenya (n=110), South Africa (n=109), or Thailand (n=100). Children were followed for 6 months of adherence monitoring using Medication Event Monitoring Systems (MEMS®) with at least one viral load measure. At month 3 and 6, children or their caregivers were administered a 10-item adherence questionnaire. Repeated measures analyses were used to compare responses on questionnaire items to: MEMS® dichotomized adherence (>90% of doses taken vs. <90%), 48-hour MEMS® treatment interruptions, and viral suppression (<1,000 copies/mL). Items associated with outcomes (p<.10) were coefficient-weighted to calculate a total adherence score, which was tested in multivariate regression against MEMS® and viral suppression outcomes. Odds ratios (OR) and 95% confidence intervals (95%CI) were calculated.

Results: Mean child age was 10.4 years and 54% were female. Children from Thailand (mean 12.5 years) were significantly older compared to Kenya (9.5 years) and South Africa (9.3 years). Mean MEMS® adherence was highest in Thailand (80% of doses taken) and slightly lower in South Africa (78%) and Kenya (75%). Child-reported adherence was significantly associated with dichotomized MEMS® adherence (OR 1.8, 95%CI 1.4-2.4), 48-hour treatment interruptions (OR 0.41, 95%CI 0.3–0.6), and viral suppression (OR 3.4, 95%CI 1.7–6.7). Caregiver-reported adherence was not significant. The questionnaire performed well across sites; however, different cut-points may be appropriate. For example, MEMS® non-adherent children in Kenya had a lower adherence score (0.98) compared to South Africa (1.77) or Thailand (1.58).

Conclusions: We found high levels of nonadherence to ART in this international cohort of children but demonstrated the validity of a short questionnaire to screen for nonadherence.

155 Predictive Analytics for Retention in HIV Care

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Background: Retention in care is essential for HIV treatment and prevention, yet <50% of HIV-positive individuals in the U.S. are retained in care. A predictive model of retention in care using electronic medical record (EMR) and contextual metadata can provide individualized assessment of clients' risk for retention failure in real time. We created an EMR-based predictive model of retention in care using machine learning methods.

Methods: For patients who received HIV care at an academic medical center in Chicago from 2011 to 2015, we collected the following EMR variables: demographics, insurance, appointment attendance, diagnoses, social history, medications, and laboratory tests. We geocoded patients' home addresses and measured travel time and distance to clinic. We gathered publicly available data regarding patients' neighborhood of residence, e.g., average income, education level, and crime rate. Retention was defined as attending two HIV care appointments within 12 months >90 days apart. The following machine learning modeling methods were used: decision trees, random forest, logistic regression, and gradient boosting. We selected models to maximize precision for the top 10% of at-risk patients. Models were compared with random baseline and expert heuristics.

Results: In total, 721 patients received HIV care over the study period, with approximately 1,500 appointments per year. Data showed 10% of appointments were not followed by an appropriately timed follow-up visit, resulting in the patient being out of care. The random forest model had the highest precision, with a relative improvement beyond expert heuristics of 20–50%. The most important features in the model were previous encounters, CD4 count, provider, and diagnoses.

Conclusions: We created a predictive model of retention in care using machine learning methods that was significantly more accurate than expert heuristics. The model can be implemented to guide retention interventions in real time, allowing providers to intervene to prevent retention in care failure before it occurs.

158 Where Should We Focus? PrEP Retention Versus PrEP Uptake: Results from the BARS Agent-Based Network Model of HIV Transmission Among Young Black MSM

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Background: Younger Black men who have sex with men (YBMSM) have among the highest rates of incident HIV infection in the United States. Pre-exposure prophylaxis (PrEP) is effective in preventing new infections among HIV-negative individuals. Elimination of new HIV infections among YBMSM will likely require increased PrEP uptake and retention.

Methods: We use an agent-based network model (ABNM) to estimate the effect of scaling up PrEP for Chicagoan YBMSM. Our ABNM includes baseline empirical data from biobehavioral studies and incorporates the following population features: sexual network evolution; vital demographic processes; dynamics of PrEP and antiretroviral treatment (ART) use; HIV testing and diagnosis; and, infection transmission. Our baseline models assumed that about 13% of HIV-negative YBMSM were on PrEP; average PrEP retention was six months. We then considered scenarios with PrEP use scaled up to 60%, and average retention period was two years. Average (±sd) HIV incidence in the tenth intervention year was the primary outcome.

Results: The baseline PrEP retention and uptake parameters produced an average incidence rate of 4.39 (±0.50) per 100 person-years (py) in the tenth year. Increasing the PrEP uptake to 60%, with the retention period held constant at six months, produced an average incidence rate of 2.13 (±0.28) per 100 py in the tenth year. Increasing average PrEP retention to two years, with uptake held constant at 13.7%, produced an average incidence rate of 4.5 (±0.53) per 100 py in the tenth year. Increasing both uptake and retention to 60% and two years respectively produced an average incidence rate of 2.10 (±0.21) per 100 py.

Conclusions: Scaling up PrEP uptake for Chicagoan YBMSM seems to be more effective than increasing retention. Future steps include analyzing which steps along the retention-uptake continuum are more implementable, and scaling our model to diverse US HIV epicenters.

160 Potential Implications of HIV-Risk Perception, HIV Testing, and PrEP Knowledge for PrEP Service Delivery in Central Uganda

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Background: Efforts looking at scale up of pre-exposure prophylaxis (PrEP) are underway in Uganda and will target most at risk populations (MARPs). However, data to guide identification and engagement of potential PrEP users in the region is limited.

Methods: We recruited HIV-negative persons among four MARPs: serodiscordant couples (SDC); men who have sex with men (MSM); female sex workers (FSW), and fisher folk (FF) from urban, peri-urban, and rural locations in Central Uganda. Participants completed a one-time survey on HIV risk perception, HIV testing, and knowledge of PrEP; data were assessed with multivariable logistic regression.

Results: Among 250 participants, 53 (21%) were SDCs, 67 (27%) FF, 74 (30%) MSM and 56 (22%) FSWs; 83 (33%) came from urban, 76 (30%) peri-urban and 91 (36%) rural settings. Median age was 28 years. Self-perception of HIV risk was high in 33 (53%), moderate in 36 (14%), low in 59 (24%), and none in 11 (4%) participants. All but three participants (99%) had previously tested for HIV. Most, 161 (64%), had never heard about PrEP. HIV risk perception was not associated with HIV testing frequency; however, more sexual partners and preference for PrEP delivery at a district hospital were associated with higher testing frequently (aOR 1.01 [p=0.03] and 3.5 [p=0.02], respectively). Lower frequency of HIV testing was associated with no knowledge of partner HIV status and non-urban settings (aOR 0.2 [p=0.007] and 0.4 [p=0.02], respectively).

Conclusions: Knowledge of PrEP among HIV-negative MARPS in central Uganda is limited and self-perceived. HIV risk alone is not related to HIV testing frequency. Counseling geared toward number of sexual partners and partner HIV status may be helpful in identifying individuals for whom PrEP may be a good option. Given variable testing by region and proximity to home, outreach efforts should consider the geographic location of potential PrEP users.

162 Examining Pathways Between Intersectional Stigma, Depression, and HIV Care Cascade Outcomes Among Women Living with HIV in Canada

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Background: Stressors of stigma and discrimination are associated with depression among women living with HIV (WLWH); and depression may have harmful effects on HIV outcomes. We examined pathways among intersectional stigma, depressive symptoms and severity, and antiretroviral therapy (ART) adherence and CD4 count among WLWH in Canada.

Methods: Baseline survey data were analyzed for WLWH (≥16 years) enrolled in a cohort study in three Canadian provinces. Multivariable logistic regressions were conducted to estimate the effects of intersectional stigma (HIV-related stigma, gender discrimination, racial discrimination) on the adjusted odds ratios of having depressive symptoms (Center for Epidemiologic Studies Depression 10-item Scale score: >10) and severe depressive symptoms (score: >15). Moderation analysis was conducted to determine the effect of social support on the relationship between stigma and depressive symptoms/severity. Structural equation modeling using weighted least squares estimation methods was conducted to test the direct effects of stigma on depressive symptoms and severity, and depressive symptoms/severity on ART adherence and CD4 count, and indirect effects via resilience and injection drug use (IDU) history.

Results: Most participants (n=1342; mean age=42.77, IQR=35–50) were taking ART (82.9%), nearly half (48.6%) reported depressive symptoms and 26.9% severe depressive symptoms. HIV-related stigma and gender discrimination were associated with increased odds of depressive symptoms and severe depression. Social support moderated this relationship. Resilience mediated the relationship between depressive symptoms and ART adherence. The combination effects from the relationship between depressive symptoms and ART adherence. The combination effects from resilience and IDU history mediated the relationship between depressive symptoms and CD4 count. The direct path from severe depression to ART adherence was significant, accounting for the mediation effects of resilience and IDU history. Resilience and IDU history partially mediated the relationship between severe depression and ART adherence.

Conclusions: Findings underscore the importance of addressing structural (stigma), social (social support) and individual (resilience, depression) factors to advance the HIV care cascade among WLWH.

168 Biomedical Prevention Integrated into Routine Care via Rapid HIV Testing

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Background: After becoming a Federally Qualified Health Center, we integrated free rapid third-and-fourth generation HIV testing into routine care appointments. Aiming to reduce stigma and increase screening and viral suppression among positive individuals.

Methods: The New Orleans area has the third highest case rate of HIV in the country. In response to this epidemic our Federally Qualified Health Center began offering free routine rapid HIV testing as part of primary care. Clinics operate a rapid/rapid screening model; if both rapid tests are reactive, the client is assisted with same day linkage to HIV care and a 30-day supply of antiretroviral medication and first dose is directly observed.

Results: Within 22 months of implementation, our clinics served 5,359 clients. Overall 3,515 clients accepted the offer for a free rapid HIV test, 41 clients tested positive for HIV; an overall positivity rate of 1.2%. Of the 41 clients who tested positive, 38 are male and 30 identify as men who have sex with men. Of the 41 HIV-positive clients, 29 are Black, nine are White, and three identify as "other." Of the 41 positive clients, 39 were linked-to-care in under 30 days; linkage rate of 95%. Currently 2,142 positive clients are receiving primary medical care; 80% have been retained in care; of those 79% have been prescribed antiretroviral treatments. Of clients retained-in-care a total of 91% have achieved viral suppression.

Conclusions: Rationale for providing free rapid routine testing is to offer HIV screening services to individuals who, while healthcare seeking, have not considered HIV screening specifically. With testing taking place within routine care, we saw high linkage, retention, medication adherence, and viral suppression for clients testing positive. Strategically using resources for rapid HIV testing to partner with local clinics and provide routine screening may be a worthwhile endeavor especially in high-risk geographical areas.

169 Tenofovir/Emtricitabine Bioequivalence Following Ingestible Sensor Co-Encapsulation

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Background: Adherence to tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) is a primary determinant of treatment success for HIV pre-exposure prophylaxis (PrEP). Despite its importance, limitations exist in current methods of adherence assessments, restricting their widespread implementation in the clinic. Proteus Discover (Proteus Digital Health) is capable of measuring the time of each dose using an ingestible sensor that is co-encapsulated with medication. In this study, the bioequivalence of co-encapsulated TDF/FTC with the Proteus ingestible sensor was compared relative to unencapsulated drug.

Methods: This was a 1:1 randomized, cross-over study in which healthy participants received a single dose of unencapsulated and co-encapsulated TDF/FTC with 250 ml of water, after a >10-hour overnight fast. A meal was provided four hours post-dose. A 14-day washout separated each period. Blood was collected at pre-dose and 0.25, 0.5, 1, 2, 4, 6, 10, 24, 48 and 72 hours post-dose. Plasma concentrations were determined by LC-MS/MS methods, with a 10 ng/mL lower limit of quantitation (LLOQ). A noncompartmental analysis was carried out with Phoenix® WinNonlin® to estimate Cmax, AUClast and AUCinf. Geometric mean ratios were calculated for each parameter and bioequivalence was defined as the 90% confidence interval (CI) of each ratio being within 80%–125%.

Results: Twenty-four participants (11 males, 19 White, 3 African-American, 2 Hispanic) completed both visits. Mean ± SD age was 28 ± 4 years and weight was 74 ± 14 kg. The 90% CIs for TFV Cmax, AUClast and AUCinf were 89–119%, 94–111% and 96–111%, respectively. The 90% CIs for FTC Cmax, AUClast and AUCinf were 96-–120%, 96–108% and 96–108%, respectively.

Conclusions: Bioequivalence was observed for the co-encapsulation of TDF/FTC with the Proteus Discover system, as assessed by a rigorously conducted pharmacokinetic study. Future PrEP studies will evaluate the utility, efficacy, and safety of the sensor system in real-world settings.

171 Relationship Dynamics and Partner Support are Associated with ART Adherence Among Married Couples from Malawi

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Background: Primary relationships can play an important role in HIV-related health behaviors, yet little is known about how they affect antiretroviral therapy (ART) adherence in sub-Saharan Africa. We investigated whether relationship dynamics and partner support were associated with ART adherence among married couples in Malawi.

Methods: Couples were eligible in a non-polygamous relationship for at least six months, age 18 or older, and had at least one partner on ART for two months who had disclosed their HIV status. Participants were recruited through two HIV clinics in the Zomba district when attending appointments. Both partners were asked about relationship dynamics (e.g. intimacy, trust, unity) and partner support. Two measures of ART adherence were assessed: the patient's self-reported 30-day adherence and the partner's estimate of the patient's 30-day adherence. Optimal adherence was defined as 90–100% versus <90% adherence. We used generalized estimation equations, clustering on the couple identifier and controlling for demographic, relationship, and treatment-related covariates.

Results: All participants (211 couples) were married and most had primary school education or less (81%). One-third of couples were sero-discordant. Of those who were sero-concordant positive, 97% were both on ART. Levels of optimal adherence were high from self and partner reports: 95% and 96%, respectively. After controlling for covariates, relationships with higher unity, satisfaction, sexual satisfaction, and partner social support (both general and treatment-specific) were associated with higher self-reported adherence and partner-reported adherence. Higher intimacy and trust were additionally associated with higher partner-reported adherence.

Conclusions: This is the first quantitative, dyadic study to demonstrate the importance of relationship dynamics for ART adherence in an African population. Using both self-reported and partner-reported adherence, we found that HIV-positive individuals in higher quality relationships had better adherence. Efforts to promote adherence among couples should consider leveraging positive relationship dynamics such as unity, satisfaction, and partner support.

173 The Implications of Race and Medical Mistrust for Women's Comfort Discussing PrEP with a Healthcare Provider

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Background: Despite being an effective HIV prevention method, pre-exposure prophylaxis (PrEP) uptake has been persistently low among US women, particularly Black women, who account for 61% of new HIV diagnoses among women, despite representing only 13% of the US female population. Medical mistrust has been identified as a barrier to utilization of HIV prevention and treatment resources among Black people in the United States. To explore medical mistrust as a barrier to PrEP uptake among Black women, we examined race-based differences in PrEP interest and intention among Black and White women and the indirect association between race and comfort discussing PrEP with a provider through medical mistrust.

Methods: Data were obtained via a 2017 cross-sectional online survey of patients recently engaged in care at reproductive health centers in Connecticut. The sample consisted of 501 HIV-negative, heterosexually active, PrEP-inexperienced Black and White women. The process macro was used to test medical mistrust as a mediator of the relationship between race (Black vs. White) and comfort discussing PrEP with a provider, adjusting for sociodemographic characteristics, insurance status, prior PrEP knowledge, and perceived HIV risk.

Results: Women (241 Black; 260 White) ranged in age from 18 to 65 years (M=28.63; SD=7.45). Most (78%) were heterosexual and 24% had prior PrEP knowledge. Black vs. White women were more likely to report any interest in learning about PrEP (70.1% vs. 60.4%) and intention to use PrEP (61.4% vs. 54.2%). Nevertheless, Black women reported significantly more medical mistrust than White women (M=2.50; SD=0.69 vs. M=2.04; SD=0.65), which, in turn, was associated with lower comfort in discussing PrEP with a healthcare provider (95% CI [-0.273, -0.072], p<.05).

Conclusions: Medical mistrust may operate as a unique barrier to PrEP uptake among Black women who are interested in and could benefit from PrEP.

176 Food Insecurity: Its Impact on Mental Health Among HIV-Infected and Uninfected Women

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Background: Mental health among women may be negatively impacted by structural determinants of health, including food insecurity (FI), but few studies have examined this relationship longitudinally among women. We hypothesized that higher levels of FI would lead to worse depressive symptoms and mental health status among women living with or at risk for HIV in the United States.

Methods: We analyzed longitudinal data between 2013–2016 from 2,551 participants (8,173 person-visits) enrolled in the Women's Interagency HIV Study (WIHS), a multi-site prospective cohort study of US women at risk for or living with HIV. FI was measured with the USDA Household Food Security Survey Module. Outcomes were depressive symptoms (CES-D) and emotional health (Medical Outcomes Study emotional health sub-scale; MOS-HIV; values 0-100, lower scores mean worse emotional health). We used multiple linear regression models with random effects to examine the independent effects of both current and previous FI (six months before), adjusting for age, race/ethnicity, income, education, housing status, and illicit drug use in the previous six months.

Results: Most (72%) women identified as Black/African-American. Over one-third reported symptoms consistent with depression (35%) and 44% were food insecure. Current marginal, low and very low food security (FS) were associated with 2.1, 3.5 and 5.5 (all p<0.001) points higher on the CES-D score respectively (see Table 1). In models adjusting for both current and previous FS, previous marginal, low and very low FS were independently associated with 0.2, 0.93 and 1.52 points higher scores respectively (all p<0.001). Results were similar when removing the somatic items from the CES-D score. Women with very low FS at both time points (persistent FI) had 6.86 points higher CES-D scores. In the emotional health models, there was a dose response relationship between current FS and worse emotional health even when controlling for previous FS (all p<0.001). Previous low FS was independently associated with worse emotional health.

Conclusions: Both recent FI and FI in the prior six months had independent negative associations with depression and emotional health in a longitudinal study among US women living with HIV. Women with persistent FI had worse mental health outcomes and should be prioritized for interventions. Future interventions to improve women's mental health call for multilevel components that include addressing FI.

185 Leveraging Peer Outreach Workers to Increase PrEP Access Among Cisgender and Transgender Women Who Engage in Exchange Sex or Inject Drugs

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Background: Cisgender and transgender women who engage in exchange sex or inject drugs are an important, hard-to-reach population at high risk for HIV. While pre-exposure prophylaxis (PrEP) is an effective HIV prevention strategy, uptake among at-risk women remains low. Peer outreach workers (Peers) are often able to successfully engage and link individuals from hard-to-reach populations to care.

Methods: Working in collaboration with an East Harlem community-based organization, we developed and implemented a program in which Peers provide women with PrEP education and counseling as well as linkage and navigation to care at a local medical clinic. Peers recruited and enrolled self-identified, English-proficient adult women at mobile syringe exchange sites and a drop-in center for could women involved in sex work.

Results: We enrolled 50 cisgender women and 16 transgender women from November 2017 to February 2018. Mean age was 44 years (SD ±11 years) and the majority (80%) were non-Latina Black and Latina. Fifty-six women (85%) self-reported HIV-negative/unknown status and, therefore, were eligible for PrEP education and counseling. Of these 56 women, 52 (93%) received PrEP education and counseling, and 26 (50%) expressed interest in a PrEP appointment. Of these 26 women, 16 (62%) received a PrEP appointment and two (13%) attended. Of the total enrolled, 44 (67%) were connected or referred to other health or social services (e.g., mental health, obstetrics/gynecology, social work, etc.). Lessons learned include the need to address participants' competing priorities (e.g., active substance use and other mental health-related issues, housing/ food insecurity, etc.) and to develop procedures to ensure clinic capacity to provide linkage to care more quickly.

Conclusions: Potential recommendations for increasing PrEP access to this priority population include quicker turnarounds for scheduled PrEP appointments, providing onsite behavioral health and social services, as well as providing PrEP care at mobile syringe exchange and sex worker drop-in sites.

188 Peer Support Is Essential for HIV Testing and PrEP Awareness Among Young Black Men Who Have Sex with Men

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Background: After more than a decade of targeted efforts to support young Black MSM (YBMSM) against the rapidly increasing socially-determined HIV epidemic, this group continues to have some of the highest rates of unrecognized infection and their engagement with PrEP remains alarmingly low. Continuing to search for ideal means for engagement in HIV prevention remains paramount for YBMSM.

Methods: We examined associations between peer support (frequency of sharing concerns about HIV/AIDS; talking about sex and HIV testing) and HIV prevention metrics among a US online sample of 154 YBMSM (M age=24, SD=2.9, range 17-29).

Results: Adjusted regression models indicate that greater peer support around HIV prevention was associated with higher frequency of lifetime testing (β=.24, p<0.01), higher probability of lifetime testing (aOR 1.4, 95% CI: 1.2 to 1.7; p<0.001) and past 6-month testing (aOR 1.2, 95% CI: 1.1 to 1.4; p<0.01), intentions to test in the next 6 months (aOR 1.2, 95% CI: 1.0 to 1.3; p<0.01), and to have heard of home HIV testing (aOR 1.2, 95% CI: 1.1 to 1.4; p<0.01), couples testing (aOR 1.2, 95% CI: 1.1 to 1.4; p<0.001); and PrEP (aOR 1.2, 95% CI: 1.1 to 1.4; p<0.001). Furthermore, higher HIV prevention peer support was associated with lower intentions to use a home HIV test (β=-.23, p<0.01), but higher intentions to test in medical/community settings (β=.37, p<0.001), and higher self-efficacy around testing and treatment (β=.38, p<0.001).

Conclusions: To increase optimal testing patterns, engagement with HIV prevention efforts, and knowledge of PrEP, facilitating communication and information exchanges with/from peers, as trusted sources, is critical for YBMSM. As HIV prevention and treatment become an integrated strategy, the YBMSM community may act as a key resource to its protection, agency and empowerment.

190 Ready, Set, Go: ART Within 72 Hours at a Ryan White-Funded FQHC in New Orleans

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Background: HIV disproportionately affects The Southern United States with the city of New Orleans ranking second for incidence. CrescentCare is a federally qualified health center committed to overcoming this disparity by optimizing the HIV care continuum.

Methods: In December 2016, CrescentCare implemented a test-and-start strategy, initiating ART within 72 hours for all newly diagnosed individuals. the CrescentCare Start Initiative. CCSI expanded to include treatment naïve patients living with HIV who were diagnosed beyond 72 hours: Early Intervention Services (EIS). We compared viral suppression rates between CCSI and EIS.

Results: Between December 2016–December 2017, 158 patients were started on ART through CCSI and EIS. In the CCSI intervention, 106 within 72 hours of diagnosis, over 50% within 24 hours of diagnosis. The median age was 29, 73% identified male, 54% identified MSM, 64% African-American, and 47% had a concurrent STI. The median CD4 count was 482 c/mm^3 and viral load of 40,350 copies/ml. 95% (101/106) achieved viral suppression (<200 copies/ml) with a median time from diagnosis of 29 days. Within 72 hours after contacting our clinic, 52 EIS patients were started on ART. Median time from diagnosis to linkage was 26 days (4–9,230). The median age was 28 with 82% identified male, 54% identified MSM, 67% African-American, and 57% had a concurrent STI. The median CD4 count was 391 c/mm^3 and viral load of 63,950 copies/ml. 81% (42/52) achieved viral suppression with a mean of 27 days from linkage.

Conclusions: Starting ART on the day of diagnosis can be effective in a Ryan White-funded FQHC in the studied locations. There are differences in engagement between newly diagnosed patients (viral suppression 95%) and those who deferred immediate linkage (viral suppression 81%) P - 0.0071. Immediate ART leading to rapid viral suppression will be a key component of ending the HIV epidemic.

192 Healthy Food Support Improved Food Security, Depressive Symptoms, and Adherence to Antiretroviral Therapy in a Resource-Rich Setting: The Changing Health through Food Support Randomized Trial

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Background: Food insecurity compromises the mental and physical health of people living with HIV (PLHIV). Few food security interventions to improve health among PLHIV in resource-rich settings have been rigorously evaluated. We conducted an intervention within an existing community-based food support non-profit to test the hypothesis that comprehensive food support would improve food security, depressive symptoms, ART adherence, and HIV viral suppression.

Methods: We recruited and randomized 191 low-income clients of Project Open Hand in the San Francisco Bay Area to a six-month intervention (n=93) or control (n=98) arm, with assessments at baseline and six months. Intervention participants received (1) weekly medically-appropriate meals and groceries which together met daily energy requirements, and (2) group-based nutritional education. Control participants received standard services (meals and/or groceries meeting 33%–66% daily energy requirements). Primary outcomes were food security (high, marginal, low, and very low), depressive symptoms (five ordinal categories for none to severe), ≥90% adherence (vs. <90%) by visual analog scale, and viral suppression. Repeated-measures regression analyses were conducted to estimate intervention effects as difference-in-differences using an interaction term between arm and assessment time.

Results: At baseline, participants were predominately male (75%), and on average 56 years old, low-income (<$15,000/y), and HIV-positive for 21 years; the arms did not differ in socio-demographic, clinical, or nutritional characteristics. The odds ratios for differential improvement of intervention participants (vs. control) for food security, less-severe depressive symptoms and adherence were 4.46, 3.08, and 5.35 respectively (all $p<0.05$). The two arms did not differ in viral suppression.

Conclusions: Medically appropriate food support improved food security, depressive symptoms, and ART adherence among low-income PLHIV. The absence of change in viral suppression may be due to San Francisco's significant population-level efforts to improve HIV outcomes. These findings support comprehensive food support as an important strategy to improve the mental and physical health of PLHIV.

196 PrEP Adherence Among MSM: Lower Rates Among Men of Color, Younger Men, and Those Who Use Drugs

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Background: Research shows that adherence to 4+ PrEP doses per week is necessary to optimally prevent HIV infection. We sought to examine PrEP adherence among a large and diverse online sample of MSM, looking at both overall adherence quality and non-adherence for four or more days in a row.

Methods: Data were collected from an online survey used to recruit for multiple projects from November 2017 through February 2018. Participants were asked about HIV prevention practices, including PrEP use, as well as a range of sociodemographic and behavioral factors (e.g., substance use, sexual risk). PrEP users were asked how well they did at adhering to their PrEP regimen in the past month, ranging from 1 (very poor) to 6 (excellent), as well as whether there was a time in the past month when they missed four or more days of PrEP in a row.

Results: Of 33,930 HIV-negative men, 3,055 (9.0%) were prescribed PrEP and assessed for adherence. In a linear regression predicting quality of adherence, Black (B=-0.29, $p<0.001$), Multiracial (B=-0.22, $p=0.005$), and men of another race (B=-0.27, $p=0.002$) reported lower adherence than White men; club drug users reported worse adherence (B=-0.28, ppn=654, 21.4%), consistent findings emerged.

Conclusions: Findings suggest adherence problems among a significant minority of MSM on PrEP. Men of color, club drug users, and younger men reported more adherence-related problems, placing them at higher risk for HIV infection. Those who are unable to adhere to daily PrEP may benefit from long-acting injectable PrEP, once available. This would allow users to stay protected thorough periods where once-daily adherence is not achievable.

200 Addressing Regional Challenges and Priorities in the European HIV Response: An Exchange Amongst European Fast-Track City Stakeholders

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International Association of Providers of AIDS Care, Washington, DC, USA

Background: The Fast-Track Cities initiative has recruited more than 200 municipalities committed to accelerating their local AIDS responses to attain the UNAIDS 90-90-90 targets by 2020; the initiative has already helped to leverage two European cities in achieving the 90-90-90 targets. Under the premise of a global movement focused on HIV care and prevention continua optimization, the initiative encourages collaboration and best practice sharing among Fast-Track Cities in every region of the world.

Methods: In January 2018, IAPAC convened eight European Fast-Track Cities through a two-day regional consultation in Amsterdam. Participating cities included Amsterdam, Berlin, Lisbon, London, Madrid, Milan, Paris, and Vienna. During this consultation, cities were given the opportunity to share best practices, discuss gaps and barriers around common priorities, and overall strengthen the network of Fast-Track Cities in Europe.

Results: Participants identified common regional challenges including: engaging key populations across the HIV care continuum; reducing new infections; and defining the role of city leadership within the context of national and/or sub-national jurisdiction. Four participating cities have developed strategies addressing these issues, two began development based on resource gained through this consultation, and two cities have yet to develop a strategy. PrEP and HIV self-testing are in varying stages of implementation in participating cities. PrEP is available in four cities; three have made PrEP available for subsets of the population through demonstration projects or studies, and one city is in the approval process. HIV self-testing is available in five cities, policy is under development in two, and it is explicitly illegal in one. Given regional commonalities such as EU regulatory mechanisms and similar target populations, participants were interested in finding a way to consolidate lessons learned and best practices. Undetectable=Untransmittable was identified as the key advocacy campaign to be adopted by the participating cities.

Conclusions: Strengthening communication and collaboration among European Fast-Track Cities allows for cities facing similar issues to learn from and build upon each other's experiences. Regional consultations in other parts of the world may allow cities with overlapping priorities to convene around targeted issues and strengthen ongoing communication and collaborations.

204 Young Adult Black MSM Perceive Less Stigma with PrEP Care in Pharmacies

Rupa Patel[1], John Crane[1], Courtney Gomillia[2], Zoe Burger[1], Kandis Backus[2], Kenneth Mayer[3], Aimee James[1], Cormac Everard[4], **Leandro Mena (presenting)**[5]

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Background: Pharmacist-delivered PrEP care is an emerging implementation approach. We explored acceptability and barriers to accessing PrEP services in pharmacies among young adult Black MSM.

Methods: We conducted 29 semi-structured qualitative interviews from April 2017 to February 2018. Inclusion criteria were self-reported MSM, 18–35 years, Black, and taking PrEP for ≥1 month. Participants were recruited from the Washington University in St. Louis Infectious Diseases Clinic in St. Louis, Missouri (N=19) and Open Arms Healthcare Center in Jackson, Mississippi (N=10). The interviews assessed acceptability (i.e., willingness to receive), facilitators and barriers, and preferred onsite services of pharmacy-based PrEP care. Audio-recorded interviews were transcribed and coded by two raters using grounded theory.

Results: Participants had a median age of 28 years, and duration on PrEP was 17 months; 38% graduated college, and 24% were uninsured. Pharmacy-based PrEP care was acceptable (96%). Facilitators for pharmacy-based PrEP care included: (1) accessibility through locations near PrEP users' homes, (2) convenience of obtaining their medications, laboratories, and care in the same location (one-stop shop), and (3) less stigma and more comfort than going to a healthcare clinic facility. Perceived less stigma for some respondents was related to pharmacies having private physical spaces. Barriers included perceptions that pharmacists lacked knowledge and credibility to deliver care; however, if pharmacists were doctor-recommended or were "specialized" in PrEP care, then these barriers could be overcome. Participants requested onsite HIV/STI testing. Some participants reported possible enhanced medication adherence with pharmacy care, but only if they felt comfortable with the staff.

Conclusions: Acceptability of receiving PrEP care by pharmacists in a pharmacy was high among young adult Black MSM. This setting was seen as more convenient, providing more comfort, and less stigmatizing than traditional clinics. National PrEP implementation efforts should include more rapid rollout of pharmacy-based services to expand access to PrEP care for Black MSM.

205 Exploring Day-Level Links Between Substance Use and Medication Non-Adherence in Older Adults Living with HIV

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Background: Addressing barriers in antiretroviral (ART) medication adherence among HIV-positive older adults (aged 50 or more) remains imperative in efforts to optimize health among this population and to prevent HIV transmission to partners. Global or averaged levels of substance use have been linked to lower overall adherence—however, we aimed to detect day-level links between substance use and non-adherence among a sample of substance-using older adults living with HIV.

Methods: Using timeline follow-back interview data for a sample of 120 older adults, participants reported on use of various substances and on medication adherence each day over the previous 30 days. Substances included: heavy alcohol use, cocaine/crack, marijuana, ecstasy, methamphetamine, other stimulants, opioids, and hallucinogens. Time-lagged multilevel models tested whether daily non-adherence was predicted by previous-day and same-day substance use (i.e., heavy drinking, non-adherence was predicted by previous-day and same-day substance use i.e., heavy drinking, stimulant use, and marijuana use, each entered separately).

Results: Analyzing 3,600 days of data, we found that medication non-adherence was predicted by use of substances on a given day, both heavy drinking (AOR=2.58, ppp=.04). Previous-day's stimulant use and marijuana use did not predict non-adherence the following day.

Conclusions: Our findings highlight the day-level influence of substance use (especially heavy drinking and stimulant use) on ART adherence among older adults living with HIV. Further, previous day's heavy drinking also predicted ART adherence on a given day, perhaps due to feeling hung over. This underscores the importance of interventions for reducing substance use or improving contingency-planning in order to optimize ART adherence among older adults living with HIV.

208 Medical and Support Service Need Characteristics of HIV-Positive Transgender Women Enrolled in the Los Angeles County (LAC) Medical Care Coordination Program 2013–2016

Wendy Garland, **Sona Oksuzyan (presenting)**

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Background: Data on the medical and psychosocial needs of HIV+ transgender women (TGW) are limited. We present assessment data for patients in the LAC Medical Care Coordination (MCC) program to characterize the service needs of TGW.

Methods: MCC teams at 35 HIV clinics assessed HIV+ patients at-risk for poor health outcomes to identify service needs across 11 domains (health status, quality of life, antiretroviral (ART) adherence, medical access, sexual risk, substance use, mental health, housing, financial, social support, legal). Patient characteristics and service needs were compared between TGW(n=150) and cisgender males (CGM;n=5,479) and females(CGF;n=863) using Chi-square and t-tests adjusted for multiple comparisons.

Results: From January 1, 2013 through December 20, 2016, 6,492 patients were enrolled 49% Latino, 28% Black; 84% CGM, 2% TGW; 77% ≤federal poverty level; 68% uninsured; 50% ≥40 years; 74% on ART; 57% retained in care in past 12m; 41% viral load.

Conclusions: Among patients at-risk for poor health outcomes who were in medical care, TGW did not have significantly different clinical outcomes but reported greater need for psychosocial support services related to risk reduction, substance use/addiction, financial, social support, housing and legal domains compared to CGM and CGF.

209 HIV Stigma, ART Non-adherence, and HIV-Associated Complications Among New ART-Initiators in Cape Town, South Africa

Andrea Norcini Pala (presenting)[1], Nadia Nguyen[1], Reuben Robbins[1], Claude Mellins[1], John Joska[2], Hetta Gouse[2], Robert Remien[1]

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Background: Optimal adherence to antiretroviral (ART) is fundamental to achieve viral suppression and decrease HIV-associated complications (i.e., opportunistic infections and hospitalization). HIV stigma is a barrier to ART adherence, which could then result in increased HIV-associated complications. We explored whether persons living with HIV (PLWH) with elevated HIV stigma had higher HIV-associated complications because of ART non-adherence.

Method: We analyzed longitudinal data (baseline, 6- and 12-month follow-ups [FUs]) from Masivukeni, a randomized controlled trial of an adherence intervention for ART initiators in Cape Town, South Africa. Participants (N=356) were HIV-positive, ART-naïve, men (24.2%) and women (75.8%), mean age 32.83 (±7.63). ART adherence was assessed with three validated items (Wilson et al., 2014). We used 90% cut-off to define non-adherence. We assessed HIV stigma with the Social Impact Scale (Fife & Wright, 2000). We performed linear regression analysis to test whether increases in HIV stigma and ART non-adherence correlated with HIV-associated complications at 12-month FU (i.e., opportunistic infections and/or hospitalization in the last six months). Lastly, we used Sobel test to estimate whether increase in HIV stigma increased the probability of HIV-associated complications through ART non-adherence. We controlled for demographic variables, viral load, mental health status and drug/alcohol use, social support, and intervention arm in the regression models.

Results: Increase in HIV stigma correlated with a higher probability of ART non-adherence (B=.17, p=.001), which in turn was associated with HIV-associated complications at 12-months (B=.18, p=.01). HIV stigma levels were significantly correlated with HIV-associated complications at 12-months (B=.13, p=.02) partially through the mediation of ART non-adherence (B=.03, p=.02; 95% Confidence Interval .07–.003).

Conclusions: Our findings confirm that HIV stigma reduction is a critical component of interventions to promote ART adherence and health among PLWH.

221 Among Black Women Living with HIV in the US Gendered-Racial Microaggressions Relates to Lower Medication Adherence

Sannisha Dale (presenting), Rachelle Reid, Sherene Saunders, Steven Safren

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Background: Trauma, racism, HIV-related discrimination, sexism, and microaggressions are adverse experiences faced by Black women living with HIV (BWLWH) in the United States. Existing literature has linked trauma, racism, and HIV- discrimination to medication adherence, however less attention has been given to nuanced/intersectional concepts such as gendered-racial microaggression (GRM) for BWLWH. GRM are everyday insults experienced by Black women on the basis of being both black and female (e.g. comments about Black women's hair and voice level). We present the cross-sectional associations between ART adherence and GRM, trauma symptoms, racial discrimination, HIV-related discrimination, and coping strategies among BWLWH.

Methods: Seventy BWLWH in the U.S. completed baseline assessments to participate in an intervention development study (Striving Towards EmPowerment and Medication Adherence [STEP-AD]). At baseline BWLWH completed measures on GRM (frequency and appraisal), trauma symptoms, racial discrimination, HIV-related discrimination, and coping strategies. BWLWH also used a Wisepill adherence monitor to track their ART adherence for two weeks.

Results: Linear regressions controlling for age and education indicated that higher GRM (appraisal: B=-.29, p=.01), higher racial discrimination experiences (B=-.30, p=.01), higher trauma symptoms (B=-.32, p=.01), and lower religious coping (B=.33, p=.01) were significantly related to lower ART adherence. Logistic regressions controlling for age and education found that each one-unit increase in GRM (frequency: B=-.033, p=.005, Exp (B)=.97, 95% CI .95 –.99; appraisal: B=-.027, p=.004, Exp (B)=.97, 95% CI .96–.99) was associated with a .97 decrease in the likelihood of having ART adherence above 80%.

Conclusions: Our findings: (1) highlight the importance of examining intersectional adversities such as gendered-racial microaggressions in relation to ART adherence for BWLWH, (2) echo that utilizing religious coping relates to higher ART adherence among BWLWH, and (3) corroborate negative associations between trauma symptoms and racial discrimination with ART adherence.

223 U=U – A De-Stigmatizing Message Inconsistently Communicated by Clinicians to PLHIV

José M. Zuniga (presenting)

International Association of Providers of AIDS Care, Washington, DC, USA

Background: People living with HIV (PLHIV) who are on antiretroviral therapy (ART) and have an undetectable viral load (VL) for six months or more and take their medications as prescribed pose effectively no risk of transmitting HIV to their sexual partners. This evidence-based message – Undetectable=Untransmittable (U=U) – has taken root through a robust grassroots effort to destigmatize HIV diagnoses and increase uptake of HIV services.

Methods: A 45-question online survey was fielded from December 2017–March 2018 among clinicians subscribed to a large (23,000-plus) listserv. The survey's aim was to gauge clinician perspectives regarding HIV, HBV, and HCV clinical management issues. Two survey questions related to clinician knowledge about and communication of the U=U message to PLHIV with undetectable VL levels.

Results: A total of 1,012 clinicians from 35 countries responded to the survey, of which 58% were physicians, 21% were nurses, 4% physician-assistants, and 18% other (e.g., pharmacist, psychologist). Practice settings for the physician-, nurse-, and physician-assistant-respondents included academic centers (44%), private practice (23%), community-based organizations (9%), community health centers (9%), and other (15%). The two primary patient categories whose HIV is managed by these three categories of survey respondents were men who have sex with men (MSM, 71%) and women (67%). A majority of these respondents (58%) indicated that 91–100% of their HIV-positive patients were on ART, and that 68% of their patients on ART had a viral load ≤50 copies/mL. Among physician-respondents, 74% percent of respondents said they were "familiar with the U=U message," and 77% of infectious disease specialists and 42% of primary care providers had "integrated the U=U message into communication with patients when conveying undetectable viral load levels." Explanations provided for not communicating the U=U message to PLHIV with undetectable VL levels included: "U=U negates personal responsibility," "patient abandons treatment but continues to think U=U," "undetectable reduces risk, but there is still risk," and "adherence is not always 100%."

Conclusions: Despite endorsements from scientific/public health institutions and professional medical/nursing associations, the U=U message is not being consistently integrated into clinical practice by HIV-treating clinicians. Education and support is needed for HIV-treating clinicians regarding the evidence behind the message, the message's impact on reducing stigma and increasing HIV service uptake, and how to communicate the message to PLHIV.

***Late-Breaker**

224 Less Is More: The Impact of Lower Pill Burden on Adherence to Antiretroviral Therapy Among Treatment Naive Patients with HIV Infection in the United States

Apurba Chakraborty (presenting)[1], Dima Qato[2], Mark Dworkin[1]

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Background: There is limited evidence outside of clinical trials of the impact of single-tablet regimens (STR) on antiretroviral therapy (ART) adherence among treatment-naïve HIV-infected patients in the United States.

Methods: We conducted a retrospective cohort study to compare ART adherence between treatment-naïve patients prescribed STR vs multiple-tablet (MTR) regimens in a nationally representative sample of IQVIA LRx Lifelink individual level pharmacy claims database during 2011–16. A patient's first ART prescription fill date during January 1, 2011–December 31, 2016 was assigned as the index date. Adult patients with an index date after June 30, 2011, who filled a complete ART regimen (US Health and Human Services recommended/alternative/acceptable for treatment-naïve patients) were considered as treatment-naive. ART adherence, measured as the proportion of days covered (PDC) for one year following the index date, was estimated among patients who did not switch regimens and had at least one refill during that period. We compared incidence of ART adherence (≥90% PDC) between patients on STR vs. MTR, adjusting for covariates (e.g. age, gender, community characteristics, payment method) using log binomial regression model.

Results: Among 27,216 eligible patients 21,603 (79.4%) were on STR and 5,613 (20.6%) were on MTR. Adjusting for covariates, the patients on STR had a 1.58 (95% CI: 1.45–1.72) times higher incidence of ART adherence compared to those on MTR (37% vs 24%). STR had greater impact on adherence among patients on integrase inhibitor-based regimens [Relative Risk, 1.84 (95% CI: 1.55–2.19)], and no significant impact on adherence among patients on non-nucleoside reverse transcriptase inhibitor-based regimens. Results persisted when only patients not filling an ART prescription at least for 24 months prior to index date were considered treatment-naive.

Conclusions: In this nationally representative study, ART adherence was higher among treatment-naïve patients on STR. The effect of STR on ART adherence varied by regimen type.

***Late-Breaker**

246 Gap Between HIV Diagnosis and Prescribed ART Among 11,450 PLHIV Aged >65: A Nationwide Population-Based Study in France

Ludivine Demessine, Laure Peyro-Saint-Paul, Elodie Morilland-Lecoq, Jean-Jacques Dutheil, **JJ Parienti (presenting)**

Centre Hospitalier Universitaire de Caen, Caen, France

Background: Antiretroviral therapy (ART) is especially important for older patients because they have a greater risk of serious non-AIDS complications. We estimated the cascade of HIV care between diagnostic and ART delivery among elderly PLHIV in France.

Methods: We conducted a retrospective population-based cohort study in France based on the National Healthcare system database (SNIIRAM), which covers 80% of the French population. We analyzed reimbursed care data from PLHIV aged >65 yo between 1st January 2016 and 31st December 2016. We estimated the proportion and predictors of ART receipt during 2016.

Results: Of the 11,450 PLHIV aged >65 yo (mean age 71.3; men 69%; median HIV duration 14.5 yo; median #co-medication 13), 2,374 (20.7%) did not receive ART during the study period. Among them, 21 (1%) died in Jan 2016, 232 (10%) received reimbursed health care other than drugs, 384 (16%) were not linked to care (no reimbursed care) and 1,737 were not linked to HIV care (received reimbursed heath care including drugs other than ART). There was a higher likelihood of no prescribed ART (p95%CI [2.6-3.6]; 11 yo-20 yo: 2.1, 95%CI [1.8-2.5] versus >20y: reference), PLHIV with a diagnostic of dementia (OR, 2.5, 95%CI [1.6–4.0]) adjusting for geographic region, number of co-meds and number of comorbidities.

Conclusion: In a high-income country with free access to ART, one out of five PLHIV aged >65 yo did not receive ART, in particular women and late-presenters. Most PLHIV not receiving ART were linked to care but not to HIV care. Polypharmacy, risk of toxicity, low perceived benefit and stigmatization may account for this gap between diagnostic and treatment.

***Late-Breaker**

248 Social Media-Based Intervention from HOPE Study

Yan Wang (presenting)[1], William Cumberland[1], Kiran Gill[2], Stephanie Soliz[3], Sean Young[4]

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Background: The Internet is very popular among gay communities, especially among those who use the internet to find sexual partners. Therefore, social media-based intervention is crucial for promoting HIV prevention, e.g. encouraging testing and reducing risk behaviors. The Harnessing Online Peer Education (HOPE) study is a social media-based intervention by peer leaders to increase HIV prevention among high-risk populations.

Methods: HOPE is a twelve-week online peer-led randomized trial. We recruit minority male adults (African American and Latino) who have sex with men (MSM) actively in the last twelve months in Los Angeles, who have a social media page, and are capable and willing of understanding and assenting to an online informed consent form. The participants are randomly assigned to an intervention group, with HIV/AIDS education and prevention knowledge.

Results: We plan to recruit 600 and have currently recruited 420 participants in the randomization study. Among the minority male adults, the majority (60%) are Latino. The social media intervention on Facebook private groups is led by training peer leaders. The program promotes the home-based HIV testing rates in the intervention groups. The members of the intervention group are more likely to discuss their HIV testing, follow-up for test results, and participation in online community discussions.

Conclusions: Social media interventions are innovative among HIV communities for both intervention and education. The HOPE study is the first to adopt the Community Popular Opinion Leader (C-POL) method to social media sites. Among the intervention group, the survey results indicate an increased rate of HIV testing among those MSM who have sexual behavior actively. This social media-based intervention methods can be generalized to other high-risk populations (e.g. substance abuse) to solve the problems of awareness, knowledge, and prevention.

***Late-Breaker**

2 High Risk of HIV/AIDS in Floating Sex Workers (FSWs) in Tangail, Bangladesh

Tapas Saha (presenting), Akhlima Akhi, Syeda Khatun

Nari Mukti Sangha, Dhaka, Bangladesh

Background: A descriptive report was prepared for 37 brothel-based sex workers and 23 floating sex workers (FSWs) in Tangail city for a period of 45 days. The report collected information about their social demographic characteristics, sex relationships, and especially safer sex. The average age of 60 sex workers was 21.20 years and they were 16 to 26 years old. Of these, 32 (53.33%) are married, the remaining 28 (46.67%) are single. 48 (80%) were the only earning member of the family. Of them, 28 (46.67%) illiterate, nine (15.00%) had only literate knowledge, and the remaining 23 (38.33%) were in primary schools. A total of 21 (56.75%) sex workers were using condoms during sex out of 37 brothel-based, the remaining 16 (43.25%) do not use condoms. Eight (34.78%) of the sex workers used condoms during sex out of 23 floating sex workers (FSWs), the remaining 15 (34.78%) do not use condoms. The main reasons for not using condoms are as the answer to the customer's dissatisfaction. We know that the main cause of STI/HIV/AIDS infections is unprotected sex. Since sex workers are mostly illiterate, it helps to spread STI/HIV/AIDS easily through unprotected sex. We believe that HIV/AIDS in Bangladesh can be prevented by increasing the use of condoms during sex. Reporting that 15 people (65.22%) of floating sex workers (FSWs) do not use condoms during sex, for this reason they are more at risk to spread HIV.

Methods: We employed a descriptive report, consisting of 60 people from the brothels of Tangail and several places nearby Tangail City. Data was collected and analyzed through confidential interviews from the sex workers'. We conducted a small sample study of brothels and floating sex workers to detect risky sexual behavior in different areas of Tangail City. Our aim is to increase social acceptability of condoms and provide and use condoms during sex. Customers need to be encouraged and promoted in condom use. Sex workers (SWs) can prevent STI/HIV/AIDS by using condoms as an antidote.

Results: Raising awareness on the above issues and methods can be helpful to establish social rights, and improving health condition and environment.

Conclusions: Effective preventive programs should be directed not only to women's floating sex workers, but also to their clients. In the context of Bangladesh, social and legal rights of sex can be established, creating an environment for sex workers reducing HIV risk.

Respondent	Use Contom	Not Use Condom
Brothel Based sex workers'		
37	21	16
Floating sex Workers'		
23	8	15

4 Contributions of Retention Kits for Retaining HIV-Positive Pregnant and Breastfeeding Women and Infants in Care

Pierre Awouho, **Liadan Claver (presenting)**

Self Help Group of People Living with HIV and Social Promotion, Abidjan, Côte d'Ivoire

Background: In the face of the AIDS epidemic, the Côte d'Ivoire is committed to eliminating the transmission of HIV by 2020. Aware of the challenges ahead, PEPFAR has made available to its partners the technical and financial means necessary to strengthen the prevention of mother-to-child transmission of HIV.

Methods: Midwives refer HIV-positive pregnant women to counselors for tracking, and retention kits are given to women by the community counselors during home visits. HIV-positive pregnant women who have completed at least four CPN and CD4 receive Kit 1 (5 kg of rice and 2 liters of oil). Women diagnosed HIV-positive during pregnancy who came to give birth at the health center also receive Kit 1. Women diagnosed HIV-positive during pregnancy, have given birth at home, and are seen in the health center within 72 hours after delivery receive Kit 2 (5 pieces of Marseille soap, 5 kg of rice, and 2 liters of oil). Women diagnosed HIV-positive during pregnancy, having attained early detection for her child by PCR/DBS within 6 to 12 weeks of birth, receive Kit 3 (5 pieces of soap, 5 kg of rice, and 3 liters of oil). Women diagnosed HIV-positive during pregnancy, having attained early detection for her child by PCR/DBS within 6 to 12 weeks of birth, and who came back after the test, for the collection of the result, receive Kit 4 (5 kg of rice).

Results: 98% of HIV-positive pregnant women screened at least 4 CPNs and received ARVs. 90% of HIV-positive women gave birth at the health center. 98% of exposed children were screened early by PCR/DBS and received their result. 98% of exposed children received cotrimoxazole at two months.

Conclusions: The retention kits have contributed to the increase in female participation.

While we value all Adherence 2018 poster abstract contributions, IAPAC and the Abstract Review Committee wish to recognize the authors of the highest scored 15 posters with the Double Palm Tree designation.

6 Cultural Transformation for Integrating HIV/AIDS Care into Primary Care

David Bradley (presenting)

Florida Department of Health in Osceola County, Kissimmee, FL, USA

Background: There is an aging HIV/AIDS population who has a need for an expanded HIV/AIDS service network. The healthcare system must adjust traditional primary care to treat HIV/AIDS in the same manner as other chronic diseases. The gaps in the medically underserved communities are being addressed via community, staff, and provider assessments which reveal the need for updated training to address HIV stigmas among non-service providers and clinical staff to increase access to care among HIV/AIDS positives persons.

The purpose of implementing this best practice is to address the impact of stigma on the primary care culture and the internal system of providers and clinical staff while implementing and sustaining the expansion of care, patient access, reducing STI's, and ensuring HIV/AIDS Bureau (HAB) standards are met.

Methods: The methodology employs the Patient Transformation Model (PTM) of a Federally Qualified Health Center to introduce a systematic process augmented with individual surveys, interviews and focus groups to gather provider, clinical staff, and patient data to assess stigma and service capacity within primary care settings.

Results: The findings revealed levels of stigma within and between patients and providers in the traditional primary care setting. Interjecting increased education and cycling of providers with an HIV specialist reduced stigma. The PTM such as the Patient Centered Medical Home (PCMH) increased patient access to vital healthcare needs and reduced logistical issues with access to antiretroviral treatment (ART) medication.

Conclusions: There is an aging HIV/AIDS population who need basic primary care. In meeting these needs healthcare providers and staff must address internal biases and find ways to reduce stigma to sustain and support viral suppression which reduces new HIV and STI infections and promote public health.

9 Caregiver Versus Self-Reported Activities of Daily Living Among HIV-Positive Persons in Rakai, Uganda

Alice Kisakye (presenting)

Rakai Health Sciences Program, Rakai, Uganda

Background: Assessment of an individual's functional status, as measured by activities of daily living (ADL), is an essential element in determining ability to adhere to medication, and diagnosis of HIV-associated neurocognitive disorders (HAND) but individuals with cognitive impairment may not accurately report ADL.

Methods: Antiretroviral therapy (ART)-naïve HIV-positive persons (n=321) and HIV-negative controls (n=134) in Rakai, Uganda, completed neurocognitive tests and an ADL questionnaire. Co-resident relatives ("caregivers") were independently administered the ADL questionnaire to determine their perception of the participant's ADL. Poisson regression was used to estimate adjusted prevalence ratios (AdjPR) of participant-caregiver agreement on disability scores. The relationship between neurocognitive impairment and participant-caregiver agreement was assessed using kappa statistics.

Results: Mean age was 36 years, and 53% of participants were male. The rate of ADL agreement between participants and caregivers was 77% for HIV-positive and 87% for HIV-negative participants (AdjPR= 0.89, 95% CI 0 .81- 0 .97, p=0.01). Among HIV-positive participants, 41% had moderate neurocognitive impairment, 15% had severe neurocognitive impairment, and 44% were normal. For moderate neurocognitive impairment, the rate of ADL agreement was 69% and for severe neurocognitive impairment the rate of ADL agreement was 66%. Compared to non-impaired HIV-positive participants (86% ADL agreement), ADL agreement was lower with moderate impairment (AdjPR=0.89, 95%CI 0 .81-0 .98, p=0.023) and severe impairment (AdjPR=0.77, 95%CI 0.63-0 .95, p=0.014). Gender, education and CD4 count were not associated with ADL agreement.

Conclusions: HIV-positive persons with neurocognitive impairment have lower agreement with caregivers' reports of ADL than HIV-positive persons without cognitive impairment. Therefore, interviewing caregivers may contribute to the accurate diagnosis of HAND and provide a better proxy for patient adherence.

11 Impact of Comorbid Mental Illness on Tobacco Use and Cessation Using a Smoking Cessation Decisional Algorithm Among People Living with HIV (PLWH)

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Background: Compared to the general population, PLWH have higher rates of tobacco use and mental illness. Data suggests that smokers with mental illness have more difficulty quitting. We performed a prospective single arm study integrating an ambulatory smoking cessation decisional algorithm in our HIV clinic. We hypothesized that patients with mental illness would have smaller changes in smoking behaviors than those without.

Methods: Participants included PLWH attending the HIV clinic and smoking at least five cigarettes a day regardless of their motivation to quit. Enrollment was from November 2015 until July 2016 (n=60). Each participant had an initial visit and two phone visits (+1 and +3 months) and received up to $160 compensation. Participants completed in-depth surveys via computer during the first visit and by phone in the follow-ups. Additional data was collected via chart review.

Results: Participants had a mean age of 48, were mostly African-American (72%) and male (67%) with well controlled HIV (mean CD4 622, HIV RNA <40 copies/mL in 70%). Overall the participants showed decreased tobacco use, with an average of 14.4 cigarettes/day at baseline and 7.1 cigarettes/day at 3 months (p=0.001). A high proportion of participants reported mental illness; any mental illness (35%); anxiety (20%); and depression (27%). On chart review, these reports were confirmed in the medical record with similar results for depression (40%) and anxiety (15%). Depression rates were further confirmed as 45% had clinical depression, evidenced by a score greater than 15 on the CESD. Patients with self-reported mental illness had higher cigarette use at baseline and 3 months (16 versus 9) than those without (13 and 6) (p=.08 and p=.08 respectively) but a similar decrease with the intervention (7 for both).

Conclusions: Patients with mental illness showed a higher cigarette use at baseline and follow-up but had similar reductions with the intervention, showing equal benefit in this population.

12 Highly Active Antiretroviral Therapy Increases the Short-Term Risk of Incident Opportunistic Infections Among People Living with HIV/AIDS

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Objective: Highly active antiretroviral therapy (HAART) causes a rapid increase of CD4+ T cells during the first three to six months of treatment and may enhance the development of opportunistic infections (OIs). However, the short-term and long-term effects of HAART exposure on incident OIs has not been extensively studied. This nationwide population-based cohort study aimed to determine the short-term and long-term effects of HAART on incident OIs in people living with HIV/AIDS (PLWHA) in Taiwan.

Methods: From January 1, 2000, we identified adult PLWHA from Taiwan CDC HIV Surveillance System. HIV-infected individuals were defined as positive HIV-1 Western blot. All PLWHA were followed until December 31, 2014, and observed for occurrence of OIs. The time-dependent Cox proportional hazards model was used to determine the short-term (≤180 days) and long-term (>180 days) effects of HAART on incident OIs among PLWHA, while considering death as a competing risk event.

Results: Of the 26,258 PLWHA, 6,413 (24.4%) had incident OIs during a mean follow-up period of 5.09 years. After adjusting for age, sex , comorbidities, and AIDS status, PLWHA receiving HAART were more likely to develop new onset of OIs than those not receiving HAART, including tuberculosis (AHR 1.88; 95% CI 1.44-2.44), disseminated mycobacterium avium complex infection (AHR 11.7; 95% CI 5.39-25.5), cytomegalovirus infection [adjusted hazard ratio (AHR) 7.42; 95% CI 5.65-9.74], Pneumocystis jirovecii pneumonia (AHR 3.41; 95% CI 2.94-3.94), cryptococcal meningitis (AHR 5.13; 95% CI 3.26-8.09), candidiasis (AHR 2.14; 95% CI 1.86-2.46), penicillium marneffei infection (AHR 2.97; 95% CI 1.79-4.93), and toxoplasma encephalitis (AHR 2.84; 95% CI 1.31-6.13). While short-term and long-term effects of HAART on incident OIs considered, HAART was a risk factor for OIs development in the short-term, but was a protective factor for OIs development in the long-term.

Conclusions: HAART increased the risk of OIs development in the short-term. PLWHA receiving HAART should be monitored carefully for OIs development during the early phase of treatment.

14 Factors Associated with Adherence to Treatment Among HIV-Positive Adolescents Aged 10 to 19 Years in Kibera Urban Informal Settlement

Samuel Mwangi (presenting)

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Background: Adolescents Living with HIV, particularly in resource limited settings, face unique challenges which impede adherence both to medication and clinic appointments. High attrition from HIV care has been an anathema for many projects operating in resource limited urban settings. Amref is implementing a care and treatment project in Kibera urban informal settlement dubbed "The Kibera Reach '90 Project."

Methods: A retrospective cross-sectional study was conducted where review of treatment files of all adolescents receiving care at four health facilities in Kibera was undertaken. A data extraction tool was used to extract socio-demographic and adherence information of the adolescents from the time they were initiated into HIV care. Adherence to HIV care was measured using missed ARV doses in the last three months. The data was analyzed using descriptive statistics.

Results: Treatment files from 81 adolescents were reviewed. The median age was 14 years. About 69.1% of adolescents knew their HIV status and 80.2% had disclosed their status. All adolescents were on ART with 11(13.6%) on second-line treatment and 43.2% had missed their doses in the last three months. Disclosure of HIV status to parents had a statistically significant relationship with the adolescents missing ART doses. Adolescents who missed appointments ended up missing their doses (Chi-sq= 36.83, of=1, p-value 1,000 copies in a millimeter (copies/mL) missed doses compared to 33.3% with VL< 1,000 copies/mL who did not miss doses (Chi-sq= 9.924, df=1, p-value=0.002). Sex, education, and disclosure to friends, teachers and relatives were not significant.

16 Effectiveness of Medication Adherence Interventions for People Living with HIV: An Overview of Systematic Reviews

Cherie Rooks-Peck (presenting)[1], Megan Wichser[2], Adebukola Adegbite[2], Julia DeLuca[1], Terrika Barham[1], Leslie Ross[1], Darrel Higa[1], Theresa Sipex[1]

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Background: Identifying effective methods to attain optimal adherence to antiretroviral therapy (ART) to ensure persons living with HIV (PLWH) achieve viral suppression is important. This overview of reviews will summarize the evidence from systematic reviews (SRs) on the effectiveness of ART adherence interventions for PLWH and descriptively compare adherence interventions among specific populations.

Methods: A comprehensive search of the CDC's HIV/AIDS Prevention Research Synthesis Database (e.g. MEDLINE, EMBASE, PsycINFO) and manual searches were conducted to identify relevant SRs published between 1996 and 2016. Included SRs had a primary aim to improve ART adherence, focused only on PLWH, and assessed medication adherence or virologic outcomes. Evidence was summarized by qualitative synthesis and SR quality was assessed using the Assessment of Multiple Systematic Reviews (AMSTAR) tool.

Results: Thirty-five SRs met our inclusion criteria. Average quality of included SRs was high. SRs that assessed text-messaging interventions (n=3 SRs) consistently observed statistically significant improvements in adherence and virologic outcomes. Behavioral (n=3), directly observed therapy (DOT) (n=2), pharmaceutical (n=2), and patient support and education interventions (n=2) observed improvements in adherence or virologic outcomes; however, results for some SRs did not observe significant effects for both outcomes or intervention effects did not persist post-intervention. One SR focusing on persons who inject drugs found DOT alone or in combination with medication-assisted therapy improved both outcomes. Among children or adolescents < 18 years of age (n=4), regimen-related and hospital-based DOT improved virologic outcomes.

Conclusions: ART adherence interventions, such as text-messaging, improved adherence and virologic outcomes; however, results differed for other intervention strategies and populations assessed. Although objective measures of adherence were commonly assessed, significant findings for both adherence and viral suppression were not consistent. Because few SRs reported evidence on high-risk populations (e.g., men who have sex with men), the results are not generalizable to all PLWH.

18 Differences in Demographic Characteristics, Sexual Behaviors, and Clinical Outcomes by Gender Among Hispanics/Latinos Receiving HIV Medical Care — Medical Monitoring Project (MMP), 2013–2014

Ruth Luna-Gierke (presenting), Alejandro Pérez, Linda Beer

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Background: Hispanics/Latinos comprise 18% of the population but represented 24% of persons diagnosed with HIV in 2015. Few publications describe characteristics of HIV-positive Hispanics/Latinos in medical care by gender, which could identify disparities and inform delivery of tailored services. We report demographic characteristics, sexual behaviors, and clinical outcomes by gender among HIV-positive Hispanics/Latinos receiving medical care.

Methods: MMP collects interview and medical record data to describe nationally representative estimates of behavioral and clinical characteristics of HIV-positive adults receiving medical care in the United States. We restricted analysis to data collected during May 2013-June 2015 among 1,774 men and 577 women identifying as Hispanic/Latino, regardless of race. We reported selected characteristics and used Rao-Scott chi-square tests to assess differences by gender.

Results: Women were significantly ($p \geq 1$ dependent aged $p=0.37$) and durable viral suppression (73% vs 68%, $p=0.09$) did not differ by gender.

Conclusions: Hispanic/Latina women receiving HIV care face greater socioeconomic and language-related challenges than men, which can pose barriers to optimal care. However, we found similar levels of ART prescription and viral suppression, perhaps reflecting women's higher use of services that facilitate HIV care engagement.

25 HIV-Positive Sex Workers Stigma Index Survey in Uganda

Flavia Kyomukama (presenting)

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Background: For Uganda, the high prevalence of HIV among sex workers (S/Ws) has been documented from the beginning of the HIV epidemic. By 2014, nine reporting countries (including Uganda) had an HIV prevalence among sex workers that was higher than the highest national value of HIV prevalence among the general population, 2009–2013. HIV prevalence among S/Ws in the country was estimated to be between 35% and 37% in 2014. The Crane Survey Report of 2010 reported a relatively closer prevalence of 33% among S/Ws in Kampala only. An additional report from the AIDS Commission further notes that this group alone and their clients accounted for 16% of new HIV infections in Uganda in 2014. The far in excess infection levels are seen to be caused by factors such as multiple sexual partners, pressures to have sex without a condom, poor negotiating power, and, sometimes, violence. The main objective of the Sex Workers HIV/AIDS Stigma Index Survey is to document stigma and discrimination related to HIV and AIDS among adult female S/Ws living with HIV/AIDS and provide evidence that can be used for advocacy to effect changes in the national HIV and AIDS response.

Methods: The geographical scope of the study is three districts in Central Uganda. The districts were selected based on high HIV prevalence districts, high sex work districts, and districts with WONETHA intervention. The districts included Kampala, Mukono, and Wakiso, located in the Central region of Uganda. A standard structured cross-sectional survey design provided by Global Network of People Living with HIV (GNP+), International Community of Women Living with HIV (ICW), International Planned Parenthood Federation (IPPF) and UNAIDS will be adopted for this survey, with a few modifications to suit the study objectives. Specific methodological steps will be derived from the accompanying PLHIV Stigma Index User Guide. The survey reference population parameters/characteristics included: HIV-positive adult female sex workers, 18 years of age and above, drawn from rural and urban settings. Respondents were either members of WONETHA or other sex work networks accessing HIV services from the Most-At-Risk Populations (MARPI) Clinic in Mulago Hospital, Kampala. A further criterion was that they should have been resident in one of the above-referenced districts for at least 30 days before the time of the study.

Results: The study revealed the following factors: 1) limited incomes that do not allow S/Ws to access enough food, despite the need to use HIV treatment; failure of some S/Ws to take drugs during working time; 2) self-stigma and stigma and discrimination from particularly fellow S/Ws; 3) clients' refusal to pay for the service provided by S/Ws; 4) clients' violence towards S/Ws; 5) police brutality and harassment; and 6) condom bursts during sex and clients' demand for unprotected sex, both dilemmas that further expose the S/Ws to other STIs. The following recommendations are a result of the study: 1) intensify HIV sensitization & prevention messages among the general S/W population; 2) provide support to children of S/Ws to reduce the HIV burden on the HIV-positive S/Ws; 3) expand the FAL Programme to target the very high levels of illiteracy among S/Ws; 4) address Internal Stigma in HIV-positive S/Ws; 5) encourage IGAs or engagement in side work; 6) improve knowledge of rights, policies and laws concerning stigma and discrimination and taking action; 7) Intensify work with the police; 8) encourage S/Ws to seek legal redress and support when their rights are violated; 9) encourage more enrollment of HIV-positive S/Ws into support groups; 10) improve the health of S/Ws living with HIV/AIDS; 11) increase coverage of S/W friendly HIV services; and 12) address stigma at community, family, and individual level.

Conclusions: There is increasing HIV incidence in S/Ws. Elderly age group FSWs are existent, therefore, efforts should be made so that they are not missed with HIV services. HIV-positive FSWs face higher vulnerabilities – single parents, high illiteracy levels, limited incomes, non-engagement in other work other than S/W. General S&D at family and community level is on the lower side; however, it is increased because of HIV status. Police harassment of S/Ws is still high; including assault, unlawful arrests, rape, extortion, and demands for sex or money as bribes. Street violence of FSWs is high. Provision of ART to HIV-positive S/Ws improved S/Ws attitudes towards caring for their lives, protecting themselves and, reducing their fears about HIV. Peer support and community mobilization have been very instrumental in facilitating SWs' cohesion and networking.

26 Structural Interventions to Increase Linkage to Care, Retention in Care, and Medication Adherence in HIV Prevention: A Systematic Review

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Background: National HIV prevention goals focus on improving HIV care-related outcomes. Structural interventions (SIs) that change the external environment to affect individual behavior and choice may help improve HIV care-related outcomes. This systematic review identifies and describes SIs addressing linkage to care (LC), retention in HIV care (RC), and medication adherence (MA) in HIV prevention.

Methods: We searched the Centers for Disease Control and Prevention's (CDC) HIV/AIDS Prevention Research Synthesis (PRS) project's cumulative database containing annual electronic and manual searches of numerous databases (e.g., MEDLINE, CINAHL, EMBASE) for studies published between 2006–2017 that reported LC, RC or MA outcomes. Two coders used an established taxonomy (i.e., Access, Policy/Procedure, Physical Structure, Capacity Building, Mass Media, Community Mobilization, and Social Determinants of Health) to classify SIs. Discrepancies were resolved through discussion.

Results: A preliminary data analysis identified 47 SIs. Twenty-four studies (51.2%) reported RC outcomes, 17 (36.2%) reported LC outcomes, and 14 (29.8%) reported MA outcomes. Thirty (63.8%) were categorized as Access, i.e., interventions that made products or services more readily available (e.g., cost-recovery program for treatment; LC services in HIV clinics). Eighteen studies (37.4%) implemented institutional policies/procedures with 10 targeting HIV testing policies in clinics and emergency departments that incorporated LC or RC strategies (e.g., appointment scheduling). Other SI types were less common.

Conclusions: Many SIs addressed HIV care-related outcomes by increasing access to services or implementing policies. Limitations of the review include not assessing intervention effectiveness and study quality. SIs along with biomedical and behavioral interventions have a major role in achieving national HIV prevention goals.

29 The Association Between Race/Ethnicity and HIV Viral Suppression Among Older Men in HIV Care

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Background: Successful HIV treatment has led to longer lifespans among persons living with HIV. Nearly 47% of persons with diagnosed HIV were aged ≥50 years in 2015. Although previous research has shown that black and Hispanic/Latino men in HIV care are more likely to have unsuppressed viral loads compared with white men, this has not been examined specifically among older men in HIV care. We examined demographic and clinical characteristics, including viral suppression by race/ethnicity, among older men in HIV care.

Methods: The Medical Monitoring Project conducts clinical and behavioral surveillance among a representative sample of HIV patients in the United States. We used matched interview and medical record data pooled from the 2011–2014 data cycles that included 6,366 males in HIV care aged ≥50 years identifying as white, black or Hispanic/Latino. Non-adherence was defined as missing an antiretroviral dose during the previous three days. Sustained viral suppression was defined as having all viral loads undetectable during the previous 12 months. Numbers and weighted percentages for clinical characteristics were calculated for each racial/ethnic group.

Results: Of older men in this sample, 46% were white, 35% were black, and 19% were Hispanic/Latino. Black and Hispanic/Latino men reported less education, private insurance and drug use, and more poverty and incarceration than did whites. Fewer black men reported taking antiretroviral medication than Hispanic/Latino or white men (96%, 98%, and 98% respectively, $P<0.01$). There were no significant differences in adherence among the racial/ethnic groups. Fewer black and Hispanic/Latino men than white men had sustained viral suppression (68%, 71%, and 81% respectively, $P<0.01$).

Conclusions: Older black and Hispanic/Latino men in HIV care are less likely to have sustained viral suppression compared with whites. Addressing differences in antiretroviral use and poverty among racial/ethnic groups may help reduce viral suppression disparities.

30 A Longitudinal Analysis of Housing Status on CD4 Count, Viral Suppression, and Retention in Care Among HIV-Infected Individuals in Rhode Island

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Background: A key component of the National HIV/AIDS Strategy is to reduce HIV-related disparities by addressing social determinants of health including housing. Using data from The Miriam Hospital (TMH) Immunology Center (IC), the largest HIV clinic in Providence, RI, we examined the longitudinal relationship between housing and HIV outcomes among 498 patients entering into care between 2013–2015.

Methods: Patient demographics and clinical variables were extracted from TMH IC database in July 2016. Using these data, patients with stable housing (SH) vs unstable housing (UH) were compared at baseline. Longitudinally, we evaluated the relationship between UH and end of year HIV-1 viral load (HIV VL), suppression (60 days). Lastly, we compared outcomes for patients who moved from UH to SH. Adjusted odds ratios (AOR) were calculated using multivariable logistic regression.

Results: A total of 99 out of 498 (19.9%) patients had UH at entry to care; of these individuals the majority were female (odds ratio [OR]: 2.28, 95%CI: 1.35–3.82), black (OR: 2.13, 95%CI: 1.35 -3.38), had a psychiatric diagnosis (OR: 1.679, 95%CI: 1.057–2.66), and an initial CD4 200 copies/mL (AOR: 3.92, 95%CI: 2.11–7.25) and failure to remain in care (AOR: 2.60, 95%CI: 1.72–3.93). Transitioning to SH was associated with viral suppression (OR: 2.71, 95%CI: 1.09–7.64) and retention to care (OR: 2.63, 95%CI: 1.12–6.85).

Conclusions: Findings indicate that UH housing is prevalent for HIV individuals at entry to care. Housing conditions, including changes in housing status, can have a significant and immediate impact on HIV-health outcomes for patients at TMH.

32 Associations Between Patterns of Drug Use and Viral Suppression Among HIV-Positive Individuals Accessing Support Services in New York City

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Background: Drug use (DU) impedes achievement of optimal health outcomes among people living with HIV (PLWH). Few studies, however, have examined the relationship between DU over time and HIV outcomes. Such studies are needed because an individual's risk of poor HIV outcomes may vary with their DU behaviors. We examined associations between DU patterns over time and unsuppressed viral load (VL).

Methods: The sample included 7896 PLWH in New York City who completed ≥3 DU assessments over a 24-month period. DU was defined as crystal methamphetamine, crack/cocaine, heroin, and/or recreational prescription medication use in the last three months. Four behavior patterns were constructed: persistent use (DU reported on each assessment), intermittent use-active (DU reported on the third, but not all previous assessments), intermittent use-inactive (DU reported previously; no DU reported on the third assessment), and persistent non-use (no DU reported on any assessment). Unsuppressed VL (>200 copies/mL) was assessed based on the last VL value in the New York City HIV Surveillance Registry in the 12 months following an individual's third DU assessment. Multivariate logistic regression controlling for sociodemographic and clinical characteristics was used to examine the association between DU patterns and unsuppressed VL.

Results: The majority of individuals in the sample were male (61%), black (57%), and living below the poverty level (83%). Crack/cocaine was most frequently reported for lifetime (46%) and recent (20%) use. Compared with persistent non-users, individuals with intermittent use-inactive (aOR=1.2, 95% CI=1.0–1.5), intermittent use-active (aOR=1.7, 95% CI=1.3–2.0), and persistent use (OR= 2.2, 95% CI=1.7–2.8) were significantly more likely to have unsuppressed VL.

Conclusions: All three DU patterns were independently associated with unsuppressed VL. While providers may be more likely to intervene with persistent or active users, our findings suggest the importance of addressing risks of poor HIV outcomes among those with any DU behavior.

34 "You Don't Really Know What's Going to Happen; It's Still New" – Pre-Exposure Prophylaxis (PrEP) Beliefs Among Young Men Who Have Sex with Men (MSM) in Miami

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Background: Pre-exposure prophylaxis (PrEP) is an effective way to reduce the risk for HIV acquisition. PrEP may be promoted within the context of voluntary counseling and testing (VCT) to enhance PrEP uptake, particularly in subpopulations at highest risk such as men who have sex with men (MSM) with recent condomless anal sex in Miami, the US city with the highest HIV incidence.

Methods: Participants from the Miami site were ethnically/racially diverse MSM (42.9% Hispanic, 14.3% Multiracial, 7.1% Black and 7.1% Asian) enrolled in an ongoing randomized controlled trial for mental health and HIV prevention in sexual minority men (ESTEEM) underwent VCT that included discussion of PrEP at the baseline visit. A total of 14 VCT sessions were transcribed and coded for themes related to PrEP using iterative content analysis.

Results: Most participants (13; 92.86%) made accurate statements regarding knowledge about PrEP, and several expressed interest in using PrEP (6; 42.9%). However, many also expressed concerns about starting PrEP due to safety concerns (10; 71.42%), with side effects being a predominant safety concern (4; 28.5%). Participants also reported structural barriers including concerns about affordability (3; 21.4%) and health insurance coverage (3; 21.4%). Additional beliefs were identified and will be highlighted in the presentation, including having to take medication daily without a known medical condition; appropriate times to use PrEP; and, where and how to access PrEP within the community.

Conclusions: Although PrEP is now available and approved for use by the FDA, there are still several barriers to uptake including concerns about safety and structural barriers, which may influence how and if sexual minority men choose to take up PrEP as an HIV prevention method. The local context of PrEP beliefs should be considered HIV prevention planning strategies at the local and national level.

38 Rectal Douching Practices Among a Large, National Sample of Men Who Have Receptive Anal Intercourse: Implications for the Development of a Behaviorally Congruent HIV-Prevention Rectal Microbicide Douche

Alex Carballo-Diéguez (presenting)[1], Rebecca Giguere[1], Cody Lentz[1], Curtis Dolezal[1], Edward Fuchs[2], Craig Hendrix[3]

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Background: Topical administration of tenofovir via a rectal douche results in higher drug concentration in the rectal mucosa than oral (systemic) administration. Many individuals who engage in receptive anal intercourse (RAI) regularly use cleansing douches beforehand. This study aimed to describe behavioral aspects of rectal douching before RAI to inform development of a behaviorally congruent tenofovir douche.

Methods: Using the social media app Grindr, we recruited individuals aged 18 or above, born male, who had engaged in RAI in the past three months and lived in the United States or its territories. Data were analyzed using descriptive statistics.

Results: Participants responded from all 50 states/territories, and the racial/ethnic distribution mirrored the general U.S. population. Of the 3,349 who responded to before-RAI rectal-douching questions, 80% reported douching in the past three months. Of those who douched, 82% did so within one hour before RAI, with a mean of three consecutive applications, 78% within 2 minutes or less of each other, and 76% retained the liquid for less than one minute. Most used tap water (89%) in an enema bottle (50%) or rubber bulb (43%). Reasons for douching included cleanliness (97%), to avoid smelling bad (65%), and to enhance pleasure (24%). Among those who did not douche, many reported never considering it (56%) or not feeling a need (29%). Of the respondents, 98% of those who douched and 94% of those who did not reported high likelihood of using an HIV-prevention douche.

Conclusions: Most respondents who reported recent RAI used rectal douches; even those who did not report douching indicated that they would be likely to use a douche to prevent HIV. An ideal HIV-prevention douche should provide sufficient protection within a user's typical number of douching applications, penetrate the rectal mucosa quickly, deliver protection within one hour, and be dissolvable in tap water.

40 Patient Recommendations for PrEP Information Dissemination at Family Planning Clinics in a High HIV Risk Area

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Background: Atlanta ranks fifth in the United States for new HIV infections and is a geographic "hot spot" for HIV in minority women. Yet, very few women know about pre-exposure prophylaxis (PrEP) for HIV prevention. Family planning (FP) clinics are an ideal setting to disseminate information about PrEP, but little is known about women's preferences for learning about PrEP in the context of receiving sexual health care.

Methods: We conducted a PrEP counseling training for providers at four FP clinics in Atlanta. Providers were trained to utilize HIV-risk screeners to facilitate conversations about PrEP. To evaluate the training's impact, we enrolled 500 women from these clinics and conducted pre- and post-visit surveys. Before the visit, participants completed an HIV-risk screener. After, participants were asked how clinics could best share information about PrEP.

Results: Only 92 (19%) knew about PrEP before the study. Of the 376 sexually active women, 110 (29%) had >1 risk indicator consistent with PrEP eligibility. A total of 347 (69%) shared advice about how clinics should share PrEP information. Advice was categorized into four themes: Advertising—173 (51%) participants believed clinics should utilize brochures, posters, phone calls, texts, or emails; Conversations—134 (39%) participants wanted staff and providers to talk to patients about PrEP; Awareness—71 (20%) participants suggested sharing PrEP information in the community and with other clinic staff and providers; and Access—11 (3%) participants wanted to be connected to PrEP services.

Conclusions: Our results demonstrate overwhelming patient interest in learning more about PrEP through educational materials and directly from FP providers. Women were vocal about increasing knowledge through educational materials and directly from FP providers. Women were vocal about increasing PrEP awareness in the community, particularly among populations especially at risk for HIV (e.g., teens). These suggestions can be translated into actionable steps FP clinics can take to increase PrEP awareness and expand their reach to benefit women at risk for HIV.

41 Low Provider and Staff Self-Care in a Large Safety Net HIV Clinic in the Southern US: Implications for the Adoption of Trauma-Informed Care

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Background: Self-care is an evidence-based, essential practice for professionals working with traumatized patients to address associated compassion fatigue, vicarious trauma and burnout. The high trauma prevalence in HIV-infected populations underscores the need for adoption of trauma-informed care (TIC) within HIV services. As provider and staff self-care is a central tenant of TIC and little is known about such practices in the context of HIV service provision, we aim to understand existing self-care practices in a large, urban HIV clinic.

Methods: Between March–August 2017 qualitative interviews (n=19) and electronic surveys (n=31) inquiring about self-care practices and perceived clinic support were conducted among staff and providers at a large, urban HIV treatment center that serves a largely uninsured, low-socioeconomic population in the southern United States. On a scale of 0–3 (strongly disagree to strongly agree), mean item scores =2.0 indicated availability.

Results: Providers scored <2 on 16/17 and staff scored <2 on 11/17 survey items, indicating overall absence of self-care services including: administrators understanding emotional impact on staff/providers, debriefing after a crisis, and feeling that concerns are heard. Interviews highlighted barriers and attitudes toward self-care. Aligned with survey findings, staff and providers felt that support for dealing with complex patients was lacking and administration could better empathize with providers' and staffs' daily experiences. Other concerns included: lack of inclusivity for providers not directly employed by the clinic, lack of time to debrief after a difficult time with a patient due to high health system demands, and overall lack of time for self-care and reflection.

Conclusions: This assessment revealed a strong need to enhance provider/staff self-care in safety-net HIV services. Clinic adoption of TIC, including activities to strengthen self-care and support of providers and staff, could reduce workplace burnout and potentially benefit patient care.

42 Interpersonal Relationship Insecurity and HIV Outcomes for Women Living with HIV

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Background: Treatment adherence and viral suppression remain sub-optimal among people living with HIV. Adult attachment style may be one factor that affects adherence. According to attachment theory, people develop generalized mental representations of how much they can rely on others' help at times of stress. The two dimensions of attachment insecurity are attachment-related avoidance (avoidance of interdependence and intimacy) and attachment-related anxiety (worry about one's value in relationships). For people living with chronic health conditions that require self-management, attachment-related insecurity may diminish the ability to cope with stressors and lead to negative health outcomes.

Methods: We examined cross-sectional associations of these two attachment dimensions with HIV-related health outcomes (antiretroviral treatment (ART) adherence, viral load (VL), CD4 count, and HIV visit adherence). Survey and clinical data from 453 women living with HIV in four cities in the US were analyzed controlling for age, race, education, income, time on ART, and drug use. Next, we examined the mediating role of ART adherence in the association between each attachment dimension and VL and CD4 count.

Results: Together, the two dimensions of attachment-related insecurity explained significant variance in all HIV-related health outcomes ($X2$=7.33, p=.03; $X2$=7.38, p=.03; F=variance in all HIV-related health outcomes ($X2$=7.33, p=.03; $X2$=7.38, p=.03; Fchange =9.83, p<.001; and $X2$=10.65, p=.005; respectively for ART adherence, viral suppression, CD4 count, and visit adherence). Attachment-related avoidance was uniquely positively associated with ART non-adherence, non-suppressed VL, and low CD4 count. Attachment-related anxiety was uniquely positively associated with low HIV visit adherence. ART adherence mediated the association of attachment-related avoidance with both VL and CD4 count.

Conclusions: Attachment-related insecurity may explain health disparities in women with HIV. Strategies that address attachment-related insecurity using methods developed in the field of interpersonal psychology may need to be incorporated in the HIV treatment milieu.

43 Individual Factors Protecting Against Internalization of HIV Stigma and Implications for Adherence and Depression: Results from Two Studies

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Background: One mechanism through which social stigma of HIV affects health outcomes of people living with HIV (PLWH) is through internalization of stigma. However, internalization of social/external stigma may not be equal for all PLWH. According to attachment theory, based on experiences with others at times of stress, people develop mental representations of interpersonal relationships.

Methods: We examined moderating effects of attachment-related anxiety (worry about one's value in relationships) and fear of negative social evaluation in transforming perceived stigma in the community into internalized stigma. Furthermore, using moderated mediation analyses we examined downstream effects of this association on ART adherence and depression. In Study 1, cross-sectional survey data from 203 PLWH recruited from a clinic in the southeast United States were analyzed controlling for age, sex, education, race, time on ART. In Study 2, cross-sectional survey data from 453 women participating in a multi-site study on psychosocial aspects of HIV were analyzed controlling for age, education, race, time on ART, and drug use.

Results: In both studies, both attachment-related anxiety and fear of negative evaluation moderated the effect of perceived community stigma on internalized stigma (B=0.10, t=2.80, p=0.006; and B=0.25, t=2.72, p=0.007 for Study 1; and B=0.07, t=2.71, p=0.01; and B=0.18, t=3.40, p< 0.001 for Study 2), such that people higher on those moderating variables had stronger associations between perceived community stigma and internalized stigma. In moderated mediation models, both attachment-related anxiety and fear of negative evaluation moderated the effect of perceived community stigma on ART adherence and depressive symptoms through the effect of internalized stigma in both studies (Study 2).

Conclusions: Interventions aiming to assuage internalized HIV stigma should focus on bolstering attachment-related security and resilience.

44 "Being a Black Man is Hard, Period" – How the Intersection of Racism and Homonegativity Affects Perceptions of PrEP and General Healthcare Utilization Among Young Black MSM

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Background: Despite the promise of PrEP as an HIV-prevention intervention, researchers have increasingly pointed to racial disparities in PrEP knowledge and uptake. These disparities may be attributable to various stigmas including racism, homonegativity, and HIV stigma. This study aimed to assess how intersectional stigmas, namely racism and homonegativity, affect knowledge and perceptions of PrEP among young, Black MSM (YBMSM).

Methods: In late 2017, we conducted five focus groups with YBMSM (n=37) ages 18-25 in Milwaukee, WI to understand their perceptions of PrEP and identify barriers to PrEP uptake. Focus groups lasted approximately 90 minutes, were audio recorded, transcribed verbatim, and coded and analyzed using thematic content analysis in MAXQDA software. Participants received $50.

Results: Eight participants (21%) reported either currently or previously taking PrEP, but otherwise, awareness of PrEP was low. It was evident that perceived and internalized racism and homonegativity affected knowledge of PrEP, comfort and utilization of healthcare, and HIV stigma. Men described racially inequitable access to education, healthcare, and neighborhood resources as influencing homonegativity in the Black community and spurring medical mistrust. Race- and sexuality-based medical mistrust and mistreatment have contributed to discomfort discussing sexual behaviors with physicians, which was perceived as a barrier to PrEP. YBMSM also described the effects of the continuing prominence of HIV-stigma within their communities and described perceived consequences in the gay and Black communities of being perceived as HIV-positive. The intersection of racism, homonegativity, and HIV stigma created numerous social barriers to PrEP use that require multi-level strategies to overcome.

Conclusions: Focus group results highlighted how several structural-level barriers, most notably racism, homonegativity, and medical mistrust, affect awareness of PrEP and general healthcare utilization among YBMSM. Efforts to promote PrEP must acknowledge and address these factors; failure to do so will result in continued racial disparities in PrEP uptake and HIV.

45 Viva Bem: An App for Strengthening and Monitoring ART Adherence in Brazil

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Background: The Brazilian Ministry of Health (MoH), aware of the impact that information has on strengthening self-care and the use of technology as a tool for knowledge, has developed the app, Viva Bem, with the objective of empowering people living with HIV (PVHIV) and improving adherence to treatment (ART).

Methods: With the help of PLHIV of different ages, genders and social classes, MoH developed Viva Bem, considering issues that they identified as important for strengthening patients with chronic diseases and respecting their autonomy. The app shows lab exams results, antiretroviral (ARV) information, alerts for schedules of laboratory testing, medical consultations, and vaccines. The app gathers data from MoH's information systems to generate automatic alerts that guide users about testing, re-dispensing medications, indicating vaccines, and soliciting feedback about public health facilities and side effects. This information is used to target interventions in this population.

Results: Although not having a communication strategy, the app has 3,200 users and 235,000 page views. 61% of users are between 18 and 36 years old. It shows the capillarity of the app within the range most affected by HIV in the country. The most accessed tool is the medication alerts page (46.4%), followed by the results of laboratory tests (20.5%) and information about ARV (5.18%). A total of 81.3% of users return to the app within 14 days, which shows frequent use. The southeastern region is the most populous and it concentrates the largest number of users (51%).

Conclusions: It is important to develop and maintain eHealth strategies for strengthening adherence among youth and broaden a strategy of communicating the application to increase the number of users as well as conducting research on its impact on the onset and continuity of ART.

47 Effect of a Psychological Intervention on Antiretroviral Therapy Adherence Among HIV-Positive Adults with Common Mental Disorders: Protocol for a Cluster-Randomized Controlled Trial

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Background: Common mental disorders (CMD) are highly prevalent among people living with HIV. CMD undermine individuals' ability to adhere to antiretroviral therapy (ART), leading to poor ART outcomes. We aim to examine the effectiveness of problem-solving therapy (PST) for CMD and adherence on ART outcomes.

Methods: Cluster-randomized controlled trial in public 16 ART clinics in rural Zimbabwe. Health facilities will be randomized to implementation of the friendship bench intervention (FB group) or enhanced standard of care (control group). Adults≥18 years on first-line ART≥6 months screening positive for CMD (Shona Symptom Questionnaire [SSQ-14]≥9) will be eligible. Individuals with current psychotic episode, cognitive impairment, WHO clinical stage 4 disease, and pregnant/postpartum women will be excluded. All participants will receive information on CMD, a brief support counselling and an assessment for antidepressant medication by the clinic nurse. Participants will be referred to psychiatric care if needed. In addition to these services, participants in the FB group will receive six individual counselling sessions of PST and peer-led group support. Trained village health workers will deliver PST through the friendship bench program. Primary outcome will be the average difference in Medication Event Monitoring System (MEMS) mean adherence over 2–6 months. Secondary outcomes are change from baseline in the SSQ-14 score, Patient Health Questionnaire (PHQ-9) score, and viral load at six months and 12 months. We will recruit 30 participants at each of the 16 clinics. The study will have 90% power to detect a 10% difference in mean adherence. Data will be analyzed using mixed effect models.

Conclusions: This study will provide evidence on the effectiveness of a promising psychological intervention on ART adherence, virological suppression and mental health outcomes among people living with HIV and CMD in low-income settings.

50 Free to Live Well with HIV in Prison in Italy

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Background: In Italy, it is estimated that one out of three HIV positive prisoners are unaware of his or her status. HIV testing and disease information is routinely unavailable. Prisons may represent a unique opportunity for prisoners to learn about HIV risks, as well as services and support available.

Methods: This project was implemented in ten prisons in the country, and engaged adult as well as juvenile male and female prisoners. The project aimed to improve HIV prevention and management, and fight stigma and discrimination, through a comprehensive education and engagement program for both prisoners and prison staff. The program offered HIV rapid testing – the first-time rapid testing has been available in Italian prisons – as well as peer mentorship for HIV positive prisoners. By documenting and evaluating the project impact, our team is now engaging the Italian prison system to embed learnings from this program in more prisons across the country.

Results: The peer-led education program for prisoners reached approximately 680 prisoners, including 29 women and 52 minors, reaching an average of 20.5% of the prison population at each site. The education program for prison staff trained 220 individuals, or 10% of staff at each site, including personnel from management, medics, prison police, educators, administration, and volunteers. We found that the prison staff were most interested in their actual risk of transmission in their daily contact with prisoners, in addition to frequent requests for HIV rapid tests. There were 208 HIV tests performed for prisoners and prison staff, all resulting in a negative diagnosis.

Conclusions: Project impact evaluation shows a good response from prisoners to the education program, which suggests that prisons may represent an optimal setting for HIV rapid testing, especially where the uptake of traditional blood sampling is traditionally low. In some prisons, where coverage and uptake of HIV testing prior to our intervention had already reached nearly 100%, it is important to understand the space for application of these tests (e.g., assessment of incidence rates).

51 The Antiretroviral Preferred Regimen for HIV-Infected Pregnant Women in Brazil in 2017 – A Viral Load Comparison

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Background: Brazil offers universal and free access to HIV care for all people living with HIV. In September 2017, Raltegravir (RAL) was recommended in the preferred regimen for HIV-infected pregnant women (HIPW), replacing efavirenz (EFV). We aimed to evaluate the antiretroviral (ART) regimens used for HIPW in 2017, describe the scenarios for RAL and EFV, and compare viral load (VL) suppression.

Methods: A retrospective cohort study was performed based on results through individual programmatic data from Ministry of Health national databases. Observational and multivariate analyses were performed with cross-referencing.

Results: A total of 8,286 ART prescriptions for HIPW were recorded in 2017, and more than 90% (n=5,098) contained the recommended ART regimen. Among not ART experienced women, median (IQR) age, baseline viral load (VL) and CD4 count were: 26 years (21–31), 7997 copies/mL (1,601–29,503) and 478 cells/µL (326–680), respectively. From them, 73.1% had an EFV-based regimen (n=1,904) and 19.6% RAL (n=510). The RAL-containing regimen group showed a higher proportion of first undetectable VL count (<50 copies/mL) after ART initiation when compared to the EFV-containing group [77.2% (n=92) vs. 43.7% (n=412); p<0,001]. There was no significant difference for the median time of first VL collection (40 days for RAL and 35 days for EFV).

Conclusions: There is a downward trend in the last ten years in mother-to-child-transmission of HIV (MTCT) rates in Brazil. This study results show that most of the HIPW-ART prescriptions follow the national guidelines. Moreover, this initial evaluation of the preferred regimen switch from EFV to RAL demonstrates its potential to achieve VL suppression earlier, preventing MTCT. Finally, this study might contribute to improvements on MTCT strategies even in low-middle income countries.

53 Self-Reported Adherence to Antiretroviral Therapy and the Associated Factors in Hunan Province, the People's Republic of China: A Cross-Sectional Survey

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Background: Optimal adherence to antiretroviral therapy is critical in order to reduce development of viral drug-resistance thus delay disease progression, reduce death rate and improve the quality of life among those living with the virus and are on treatment. This study aimed to describe the adherence level to antiretroviral therapy and its associated factors among people living with HIV in Hunan Province, China.

Methods: Across-sectional survey study was done at two major HIV treatment sites within Hunan province in China from July 2011 to October 2012 through face-to-face interviews. Adherence measures were captured using a 30-day visual analogue scale (VAS).

Results: A total of 418 participants consented and completed the questionnaires with the mean age being 38 years old. Based on VAS, 28% of the participants had lower than 90% ART adherence level. The main reasons for missing drugs were; forgetting, being away from home, being busy and feeling worse after taking drugs. Logistic regression results showed that drug use (B=0.68, OR=2.11), time on ART (B=-0.31, OR=0.72) and side effects (B=0.64, OR=1.82) were significantly associated with adherence to ART.

Conclusions: Patients on ARVs in Hunan province are faced with adherence challenges notably drug abuse, drug regime scheduling challenges at the initial stages of therapy and drug side effects. It is therefore necessary to institute specific adherence interventions that target those who abuse drugs, ART naïve patients, and those experiencing side effects in order to achieve optimal ART adherence.

54 Intersectional Effects of HIV, Race, and Sexual Orientation Discrimination on Depression in the Southeastern United States and Implications for Adherence

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Background: The southeastern United States has the highest rates of HIV diagnoses and related mortality in the nation. Social conservatism that characterizes much of the South may perpetuate HIV, race, and sexual orientation-related stigmas that marginalize people living with HIV (PLWH). Thus, intersectional discrimination may help explain health disparities, and warrant further research.

Methods: A total of 203 PLWH currently on antiretroviral therapy (ART) and not using substances were recruited from an outpatient HIV care clinic in Birmingham, Alabama. Experiences of discrimination related to HIV, sexual orientation, and race were assessed using nine parallel items. We examined relationships between these three forms of discrimination and depressive symptoms.

Results: All three forms of discrimination were moderately correlated (all p values B=2.83, pB=-1.38, p=.01, 95%CI [-2.38, -0.38]); and racial discrimination was not significantly associated with depressive symptom (B=0.43, p=.24). In moderation analyses with the same covariates, endorsement of sexual orientation discrimination moderated the effect of HIV discrimination on depressive symptoms. Specifically, the adverse effect of HIV discrimination on depression was dampened when people also endorsed experiences of sexual orientation discrimination (interaction effect: B=-2.25, p=.01). HIV discrimination had a stronger association with depression in the absence of sexual orientation discrimination. This moderating effect was not observed for racial discrimination.

Conclusions: An intersectional discrimination framework suggests that not everyone is uniformly affected by different forms of discrimination, and discrimination experiences may interact to affect health outcomes. This perspective can enhance our understanding of health disparities among PLWH such as depression, which may translate to differences in other outcomes such as HIV treatment adherence.

55 Perceptions of Perceptions: The Importance of How Research Participants Think They are Perceived in an Electronic ART Monitoring Study in Rural Uganda

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Background: Novel monitoring technologies, such as electronic adherence monitors (EAMs), have impacted researcher-participant interactions, with consequences for monitoring studies' practicalities and ethics. Yet little is known about the ways in which electronic monitoring and the resulting interaction between researchers and participants affect the experience of research participation.

Methods: We conducted a qualitative study that explored interviewees' potential ethical concerns about electronic adherence monitoring. We drew participants from the Uganda AIDS Rural Treatment Outcomes (UARTO) study, a ten-year observational cohort study involving standard and real-time wireless electronic adherence monitoring of HIV antiretroviral therapy (ART) in Mbarara, Uganda. We also interviewed UARTO research assistants (RAs) and members of Mbarara's local research ethics community. Conventional and directed content analyses were used to evaluate interviews and to develop themes and conceptual categories.

Results: We found that participants valued their relationships with RAs and were preoccupied with RAs' perceptions of them. Participants felt that their relationships with RAs hinged upon their adherence to ART, as revealed by the EAM. Participants were pleased when the EAM revealed regular adherence. Conversely, annoyance with study staff arose when the EAM revealed non-adherence that contradicted participants' self-reported pill-taking behavior. Many participants described how the desire to maintain a good impression incentivized adherence. Finally, some participants sought to creatively conceal non-adherence, or simply refused to use the EAM specifically to avoid revealing non-adherence to RAs. Together, these findings outline the ways in which subjects' perceptions of the team members' perceptions of them, which we term "second-order perceptions," affected the experience of being monitored, the experience of study participation, and ultimately the data gathered from the EAM study.

Conclusions: In a longitudinal antiretroviral EAM study in rural Uganda, participants' perceptions of their relationship with researchers, including of how the latter perceive them, reportedly affected participants' experiences and behaviors within the study. Researchers should be aware that social interactions may arise between participants and study staff that could affect both the practical and ethical conduct of monitoring-based research.

58 Urban/Rural Disparities in HIV Workforce Capacity in the United States (US) South: A County-Level Analysis

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Background: We assessed capacity and geographic distribution of the clinician workforce providing adult primary HIV care in the US South, given the region's poor HIV health outcomes, focusing on urban-rural disparities.

Methods: We used administrative claims and physician characteristics data to characterize the Southern HIV clinician workforce. Data included: claims for adults 19–64 years, Medicaid Analytic eXtract (MAX), 2009-2012; MAX provider characteristics, 2009–2011; county-level diagnosed HIV cases, AIDSVu, 2014; and county-level rurality, National Center for Health Statistics, 2013. We leveraged Medicaid data because >70% of physicians accept Medicaid, the largest source of insurance for people with HIV. HIV diagnosis, service, and antiretroviral drug codes identified primary HIV care claims, which were used to identify clinicians providing primary HIV care and counties where they practiced. We assessed workforce capacity using county-level clinician-to-population ratios (number of HIV clinicians per 1000 diagnosed HIV cases, for counties with >5 diagnosed HIV cases).

Results: We identified 4,674 clinicians providing primary HIV care; most (4,095, 87.6%) are physicians, followed by nurse practitioners (508, 10.9%) and physician assistants (71, 1.5%). Few (614, 13.1%) practice in rural counties, but this varies by state (0.0%, Maryland – 44.4%, Mississippi). HIV clinicians practice in 549 (59.3%) of 926 Southern counties with >5 diagnosed HIV cases. The median clinician-to-population ratio is 11.8 HIV clinicians per 1000 diagnosed HIV cases (interquartile range [IQR] 35.7); median ratios are lower in rural (0.0, IQR 41.7) vs urban (14.5, IQR 30.3) counties. However, this varies across states (e.g., West Virginia [rural 0.0, IQR 0.0; urban 40.8, IQR 83.3]) vs Louisiana [rural 9.2, IQR 31.4; urban 13.8, IQR 21.4]).

Conclusions: Over 40% of Southern counties with >5 diagnosed HIV cases have no HIV clinicians. Urban-rural disparities suggest limited workforce capacity in the rural South, highlighting the need for efforts to ensure an adequate HIV workforce in rural settings.

59 The Importance of Community and Professional Connection in the Positive Peers Mobile-Application Intervention to Engage and Retain Young People in HIV Care

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Background: Young people living with HIV (YPLWH) are a vulnerable population with broad support needs and the lowest rates of engagement in care. Novel strategies are needed to attract, engage and retain this population to innovations in treatment and support. Mobile applications are an increasingly popular method for engaging YPLWH in care as traditional methods are insufficient.

Methods: We developed and implemented Positive Peers, a mobile application that provides curated information, a closed community forum, private chat, and personalized health tools to HIV positive young patents (13–34 yrs) newly diagnosed or not optimally engaged in HIV care at a county hospital. One year after launching Positive Peers it's possible to report important recruitment and retention results for this hard to reach group.

Results: We found the recruitment and retention of young people who are newly diagnosed or not optimally engaged in their HIV care to be a significant challenge. Our project coordinator has encountered many familiar barriers like stigma, depression, hectic schedules, and transportation issues resulting in 84 missed appointments and a no-response rate of 28%. Despite this, his novel engagement strategies and the social nature of our app have led to the successful enrollment of 117 of the eligible 213 (55%) YPLWH, a retention rate of 96% in the intervention, and a 74% viral suppression rate.

Conclusions: Though mobile applications can support engagement in care, sustained use depends on frequent encounters with peers and a trained staff member. Our project coordinator is essential to recruitment, app logistics, initial and sustained engagement, and serves as a trusted link to HIV care. We encourage those conducting similar interventions to hire staff that: (1) reflects the population being served (i.e., young/gay), (2) can give their full attention to the app and patients, and (3) are flexible, responsive, and good communicators.

60 Tools for Providers to Support Motivational Interviewing Interventions for Pre-Exposure Prophylaxis (PrEP) Uptake and Persistence Among Gay and Bisexual Men: The PrEP Decisional Balance and Contemplation Ladder

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Background: Pre-exposure prophylaxis (PrEP) uptake among gay, bisexual, and other men who have sex with men (GBM) has been modest. Brief assessment tools for clinical intervention are needed to support the influx of work focused on increasing PrEP uptake and persistence. We aimed to develop and validate tools supporting motivational interviewing (MI) interventions using the Motivational PrEP Cascade.

Methods: In 2017, a nationwide sample of HIV-negative GBM (n=786) were asked about sexual behavior to indicate modified CDC criteria for PrEP use, a 35-item decisional-balance scale (i.e., PrEP-DB) assessing benefits and consequences of PrEP use, and questions assessing location on the Cascade and a derivative—the single-item PrEP Contemplation Ladder. Principal axis factoring with oblique promax rotation was used for PrEP-DB construct identification and item reduction (factor loadings <0.60). Among PrEP candidates, we used Spearman's rho to test correlations of PrEP-DB construct scores and the Ladder across the Cascade. We then examined associations between PrEP-DB construct scores and the Ladder using OLS linear regression, adjusting for age, race/ethnicity, education, employment, and income.

Results: The final 20-item PrEP-DB performed well, indicating differences in the four construct scores across the cascade for health benefits (α=.91; ρ=0.49, p≤0.001), health consequences (α=.82; ρ=-0.27, p≤0.001), social benefits (α=.72; ρ=0.23, p≤0.001), and social consequences (α=.86; ρ=-0.13, p≤0.01). Ladder scores also increased across the cascade (ρ=0.89, p≤0.001), and health benefits (β=0.50, p≤0.001) and health consequences (β=-0.37, p≤0.001) were more strongly associated with Ladder location than social benefits (β=0.05, p>0.05) and social consequences (β=-0.05, p>0.05) in the fully-adjusted regression model.

Conclusions: The PrEP-DB and Ladder were reliable measures with preliminary indications of validity, providing brief self-assessment tools useful for MI-based PrEP uptake and persistence interventions. Complementing tools to determine PrEP candidacy, researchers and practitioners are now equipped to promote and evaluate PrEP uptake and persistence.

62 HIV Testing and the Associated Factors Among Men Who Have Sex with Men in Changsha, China

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Background: Promoting HIV testing is the most important strategy to meet the 90-90-90 UNAIDS target in 2020. Although the HIV incidence among men who have sex with men (MSM) is increasing rapidly in most areas of China in recent years, the HIV testing rate among this population is still low. This study aims to estimate the HIV testing rate in the past year and the associated factors among MSM in Changsha, China.

Methods: This cross-sectional study investigated the HIV testing rate and analyzed the associated factors among 565 MSM in Changsha between April and December 2014. A gay friendly community based organization of "Zuo An Cai Hong" in Changsha was collaborated to recruit participants.

Results: The findings showed that 37.7% of the participants did not receive any HIV test, 38.2% had one test, and 24.1% had two or more tests in the past year. Those who initiated their first sexual intercourse at an older age, had known someone infected with HIV, or been diagnosed with at least one type of sexually transmitted illness (STI) were more likely to take at least one HIV test in the past year.

Conclusions: HIV testing rate was low among MSM in Changsha. Future intervention programs aiming to improve HIV testing could focus on young MSM who are sexually active, integrate HIV testing and counseling services in STI clinics, and describe real experiences of living with HIV, so as to improve the HIV testing among MSM in China.

63 Reasons for Non-Use of Electronic Adherence Monitoring Devices: Qualitative Analysis

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Background: Electronic monitoring devices, such as Wisepill, can improve the accuracy of ART adherence measurement, but only if they are used consistently as directed. Recent research indicates patterns of Wisepill use can vary substantially among virally suppressed HIV-infected adults. We used qualitative data to identify reasons for Wisepill non-use among Ugandan and South African adults taking ART.

Methods: This qualitative research was part of a larger longitudinal study of ART adherence in early stage HIV disease taking place in rural southwest Uganda and in Cape Town, South Africa (NCT02419066). Real-time electronic monitoring through Wisepill was used to measure adherence. One-hundred participants in the larger study with CD4>350 cells/ml made up the qualitative sample. Data collection consisted of open-ended interviews exploring participants' experiences of medication adherence and Wisepill use. An inductive, content analytic approach was used to characterize reasons for Wisepill non-use.

Results: Detailed descriptions of participants' dosing experiences indicated they were largely using Wisepill consistently and as directed. Some lapses in device use were evident, however. Reported reasons for not using Wisepill included: (1) loss of access when the device was misplaced or stolen, (2) desire to avoid questions about the device, and (3) inconvenience (device considered unwieldy or noisy). Overall, reported reasons for non-use pointed to an underlying fear that device use would attract attention, resulting in unwanted disclosure of HIV status. Most participants reporting lapses also reported continuing to take medications despite Wisepill non-use. They took pills stored in other containers, e.g., "leftovers" remaining in standard pill bottles, or used "pocket doses," i.e., multiple doses removed from Wisepill at a single opening and intended for use at a later time.

Conclusions: Helping users overcome fear of disclosure through Wisepill may reduce lapses in Wisepill use. Lapses may have greater consequences for adherence measurement than for ART adherence itself.

66 Sexual Practices and HIV/STD Status Among the Wives of Men Who Have Sex with Men (MSM) in Mainland China

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Background: In mainland China, an estimated of 70% of the 21 million men who have sex with men (MSM) are currently married and going to marry with women, which exposed the wives of MSM with sexual transmitted diseases (STD) and HIV risk, due to the high prevalence of unprotected sexual behaviors and multiple sexual partners of MSM. However, there is less data about the sexual practices, HIV and STD infection status for wives of MSM.

Methods: An online-survey was administrated among 178 women who reported their husbands or ex-husbands having male-to-male sexual behaviors from February 2016 to February 2017. Sexual practices, HIV and STD infection status were explored by using a self-developed questionnaire.

Results: The average age of these women was 33±7 (median: 31, range: 20–60) years, and 123 were currently married, 55 had divorced. Most did not know their husbands' homosexual orientation before getting married (10/178, 5.6%). Seventy-four of them had children, 89% had sexual practices after marriage, and 50% had at least one sexual behavior with their husband during the recent six months. But 50% (78/178) never use condoms, and only 13% consistently used condoms before they knew their husbands' homosexual orientation. Even after they knew the truth, 57% (90/158) still had sexual practice with MSM, and among them only 29% (26/90) used condoms consistently. There was one woman self-reported getting infected with HIV, and 10 got infected with STD.

Conclusions: The wives of MSM in China practiced unprotected sex with their husbands, and encountered STD and HIV risks. Although this is not a representative sample due to the hidden population, public health scholars and officials should have a great concern for the STD and HIV infection of this group of women, and link them to HIV/STD prevention and care.

67 PrEParados: Social Network Modeling as a Facilitator for Latino MSM's Progress in the PrEP Cascade

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Background: Miami has the highest HIV incidence of all US metropolitan cities. MSM and Latinos 20–39 years old constitute the majority of HIV+ men in Miami (70.8% and 60.6% respectively). Limited information exists on the characteristics of Latino MSM (LMSM) social networks (SN), and no studies have measured the influence that SNs have on LMSM's PrEP cascade progress. We will share the characteristics of, and our experiences in, designing PrEParados–an innovative, theory-based model with goals of: (1) understanding how SN and venue-based affiliations can facilitate LMSM's PrEP cascade progress, and (2) how PrEP programs can harness this potential.

Methods: Dr. Kanamori's health disparity SN research and Dr. Doblecki-Lewis's experience at a Miami PrEP Clinic spurred collaborative ideas with Dr. Fallon (Latino HIV community organization) and Dr. Safren (PrEP adherence intervention expert) that subsequently became PrEParados' research goals. Research aims were developed in collaboration with senior public health scientists and SN experts including Dr. Vacca. Community members, HIV experts and NIH officials (N~40) provided feedback and advice on face validity and feasibility at two CFAR conferences.

Results: PrEParados is the first model of sociocentric friendship networks and egocentric sexual networks for LMSM ages 20–39 years applied to the PrEP cascade framework. Sociocentric analyses quantify the relationships within groups of LMSM friends (N=130 PrEP and non-PrEP users; 10 groups). Egocentric analyses describe the sexual network around each participant LMSM (N=130 egos). PrEParados' aims are: (1) Identify the individual, social, and structural factors of friendship networks as associated with PrEP cascade position, and (2) Identify associations between sexual network characteristics (e.g., homophily, alcohol/drug use) and the probability of PrEP discussion and PrEP use disclosure.

Conclusions: PrEParados has been funded and is being implemented. Findings will guide the development of a multi-level intervention to facilitate LMSM PrEP cascade progress.

68 Performance of AIDS Care Facilities in Treatment and Adherence Indicators in São Paulo State: Brazil, 2016

Maria Ines Nemes (presenting)[1], Carolina Souza Adania[1], Ana Alves[1], Gabriel Lima[1], Felipe Vale[1], Maria Altenfelder Santos[1], Ernani Tiaraju Santa-Helena[2], Ana Loch[1]

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Background: There are about 830,000 people living with HIV in Brazil, 30.6% of which are in the state of São Paulo, where 85% of patients were linked to care, 63% received treatment and 58% achieved viral suppression in 2015. In 2016, facilities that assist people living with HIV in São Paulo participated in the fourth national application of the Qualiaids Questionnaire, a tool that assesses HIV care delivery and work process. This study aims to describe the performance of facilities in the State of São Paulo on issues related to HIV treatment and adherence.

Methods: Qualiaids is a multiple-choice questionnaire that comprises 82 indicators on care delivery process, structure and management. The questionnaire is answered through an online system and a performance report is instantly available. The responses are scored according to expected benchmarks for service organizational quality, using a scale from zero to two (0- insufficient, 1-acceptable, 2-expected). For this study, we selected indicators related to treatment and adherence.

Results: The questionnaire was answered by 197 (100%) facilities in the state of São Paulo. If patients refer difficulties with treatment, they have a return appointment set at shorter intervals in 169 (85.8%) facilities; the importance of adherence is emphasized in medical appointments in 168 (85.2%) facilities; and patients are referred for individual counseling with a psychologist, social worker or pharmacist in 124 (62.9%) facilities. Only 65 (33.0%) facilities assess patients drug withdrawal using spreadsheets or other pharmacy dispensing tools. Adherence monitoring based on viral suppression outcomes occurs in 94 (47.7%) facilities.

Conclusions: Efforts are needed to improve adherence monitoring at HIV facilities in the state of São Paulo. In addition to monitoring individual care outcomes, facilities need to monitor the entire group of patients in order to develop innovative programs that may improve adherence to treatment.

69 Concordance of Pre-Exposure Prophylaxis (PrEP) Use Between Partners: Implications for Expanding PrEP Uptake Among Gay, Bisexual, and Other Men Who Have Sex with Men in Relationships

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Background: HIV transmission through main partnerships is estimated to account for 35-68% of incidence among gay, bisexual, and other men who have sex with men (GBM); however, our understanding of PrEP uptake between partners is limited. We sought to determine PrEP uptake among GBM and their partners in a nationwide sample.

Methods: In 2017, a sample of HIV-negative partnered GBM (n=3140) were asked about individual and main partner PrEP uptake. Men were coded into four PrEP groups: (1) neither participant nor partner on PrEP, (2) partner only on PrEP, (3) participant only on PrEP, and (4) both on PrEP. We examined associations of demographics (age, sexual orientation identity, gender identity, race/ethnicity, and education), relationship factors (arrangement and duration), sexual behavior (any condomless anal sex (CAS) with main partner and any CAS with male casual partners) and bacterial sexually transmitted infection (STI) diagnoses in the past six months, and sexual positioning (top/versatile/bottom) with reported dyadic PrEP use using fully-adjusted multinomial logistic regression.

Results: PrEP use was reported as 3.2% for the partner only, 6.5% for the participant only, and 4.9% for both participant and partner; 85.7% reported no PrEP use in the relationship. Compared to the neither on PrEP group, men who reported concordant PrEP use had higher relative-risk of any CAS with their main partner (RRR=2.78, 95%CI=1.69–4.57) and any CAS with male casual partners (RRR=2.27, 95%CI=1.51–3.42). Compared to the neither on PrEP group, all three groups with PrEP use had higher reported rates of STIs (RRRs=2.27–4.99, p-values <0.05).

Conclusions: PrEP uptake is still low among partnered GBM, and some are choosing to use PrEP concurrently with their partner. PrEP is reaching some partnered GBM in need, but further efforts are needed to expand its use. We must also shift to a greater focus on STI prevention among partnered PrEP users.

71 Which Specific Sociodemographic Characteristics are Most Associated with Peer Change Agent Engagement in HIV Prevention Interventions?

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Background: Engaging members of the Young Black Men who have sex with men (BMSM) community as peer change agents (PCAs) is one strategy for increasing PrEP linkage to care. We identify the individual-level characteristics most associated with engagement in an intervention designed to support PrEP linkage to care efforts.

Methods: Baseline data are from PrEP Chicago, a randomized controlled trial network intervention that trains PCAs to increase PrEP uptake in Chicago. The primary outcome measure is having network associates with linkage to a PrEP scheduler. Secondary outcomes of engagement are recruitment of peers into the intervention and booster call completion.

Results: PCAs (N=209) recruited a mean of one peer into the intervention; completed a mean of 2.7 booster calls; and had a mean of two network associates with linkage into a PrEP scheduler. Multivariate Poisson regression demonstrate that prior PrEP awareness (IRR 2.52; 95% CI 1.76–3.61) and PrEP experience (IRR 1.59; 95% CI 1.16–2.17) are positively associated with having network associates with linkage to a PrEP scheduler while increasing age (IRR 0.96; 95% CI 0.92– 0.98) is negatively associated with having network associates with linkage to a PrEP scheduler. HIV-positive status and prior PrEP awareness are positively associated with recruitment and booster call completion; while unemployment is negatively associated with booster call completion.

Conclusions: Our study demonstrates that about half of the BMSM in our study were motivated to engage in an intervention supporting PrEP linkage to care. A major finding is that prior PrEP awareness is significantly associated with all three engagement metrics — recruitment, booster call completion, and having network associates with linkage to a PrEP scheduler. These findings can be used to inform PCA selection and to identify subpopulations who may require additional supports to excel as PCAs in HIV prevention interventions.

72 A Medical Student Brings PrEP (Pre-Exposure HIV Prophylaxis) to Belle Glade, Florida

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Background: A fourth year medical student in Florida collaborated with an infectious diseases doctor from an academic center in the Northeast and a local family medicine doctor to bring knowledge and awareness about PrEP (pre-exposure HIV prophylaxis) to Belle Glade, Florida. TDF/FTC, taken as PrEP is a daily medication that significantly reduces the chances of acquiring HIV. This medication, along with a counseling and monitoring program, was approved by the FDA in 2012 and is a powerful tool to help decrease the spread of HIV in the United States.

Methods: A fourth year medical student at FAU interested in family medicine identified and partnered with a PrEP subject matter expert at the University of Pennsylvania who agreed to help design a curriculum specific to Belle Glade, an epicenter of HIV infection in the 1980s with a predominantly heterosexual pattern of HIV transmission. The medical student attended several PrEP lectures given by the subject matter expert, as well as participated in one-to-one training in order to become trained on the PrEP program. A Florida-based family medicine doctor with ties to Belle Glade helped the medical student attain IRB approval for PrEP training to the family medicine residents at Lakeside Medical Center in Belle Glade. The medical student gave a two-hour training course on PrEP with the family medicine doctor present to answer clinical questions on PrEP. The lecture was given during the residents' regularly scheduled didactics session with pre- and post-session surveys to assess knowledge gained.

Results: Of the 12 residents who attended the lecture and filled out both a pre- and post-session survey, 80% indicated an increase in their knowledge on PrEP and their comfort level in prescribing and monitoring it. Of those 10 people, most indicated an increase in knowledge of 25–50%, with three people indicating an increase in knowledge of 75–100%.

Conclusions: Additional PrEP lectures will be given at a Florida Department of Health preventive medicine seminar as well as to medical personnel at the FAU Student Health Clinic. In order to make the PrEP educational program sustainable, the graduating fourth year medical student will train a rising fourth year medical student on PrEP. Engaging medical students in training local and regional clinical staff on PrEP could be a powerful tool to increase the reach of established education and training organizations, and further efforts to scale up domestic HIV prevention efforts in the United States.

73 Facilitators of HIV Care Engagement for Spanish-Speaking Latino/a Patients Born Outside the Continental United States

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Background: Most (60%) Latino/as diagnosed with HIV in the United States were born outside the Continental United States. Paradoxically, Latino/as report many risk factors for poor health outcomes but engage in HIV care well. To understand this paradox, we explored service delivery factors associated with HIV care engagement in a sample of Spanish-speaking patients in San Francisco.

Methods: Spanish-speaking patients in care for >1 year were recruited from the SALUD HIV Clinic in the Zuckerberg San Francisco General Hospital. Qualitative researchers conducted three focus groups and seven in-depth interviews in Spanish at the clinic.

Results: Participants were from Mexico, Peru, El Salvador, Honduras, and Guatemala, and living in the United States for a median length of 17 years. Median age was 46, five patients were heterosexual women and 15 were gay/bisexual men. Service delivery factors facilitating engagement included: bilingual front desk staff as the first point of contact with the clinic, perceiving other patients to be greeted warmly and experiencing the same greeting themselves, the presence of other bilingual medical assistants, nurses, and social workers, and a sense of instantaneous rapport with bilingual primary care providers. Participants described staff and providers as being like family, which facilitated openness to discuss mental health and other comorbidities, leading to the receipt of wrap-around services. Participants also reported extensive trauma in their home countries and experiencing acculturative stress. However, their narratives revealed that positive clinic experiences intersected with their own development of resilience and agency.

Conclusions: Being foreign-born, non-English speaking, and having a history of trauma are contextual factors patients bring with them into HIV clinics. While data suggests these contextual factors negatively impact a person and their ability to be fully engaged in HIV care, positive and language concordant interactions with clinic staff and providers may help buffer against any negative impact.

76 Universal Test and Treat: What Do the Numbers Show?

Anna Cross (presenting)[1], Dolphina Cogill[1], Gareth Bowers[1], Nondikho Bango[1], Catherine Orrell[2]

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Background: South Africa was among the first African countries to adopt Universal Test and Treat (UTT) in accordance with World Health Organization (WHO) guidelines. Along with the formal adoption of UTT on 01 September 2016, came the expectation of an influx of well patients requiring antiretroviral treatment (ART), putting an additional load on facilities, systems and resources already at capacity. The question of whether this has occurred has not been answered.

Methods: The Desmond Tutu HIV Foundation has monitored ART services at the Hannan Crusaid antiretroviral clinic in Gugulethu, a peri-urban public primary care clinic in Cape Town, South Africa, since 2002. We retrospectively examined the change in numbers, as well as baseline CD4 counts, of ART-naïve, non-pregnant, adult (≥18yrs) patients who initiated treatment from 01 September 2015 – 31 August 2016 (Group 1) compared to 01 September 2016 – 31 August 2017 (Group 2).

Results: A total of 511 patients initiated ART in Group 1, and 392 (76%) baseline CD4s were available. The median baseline CD4 was 248 cells/mm^3 (IQR 133–406 cells/mm^3). Group 2 included 503 patients, of whom 444 (88%) had baseline CD4s available. The median baseline CD4 in Group 2 was 314 cells/mm^3 (IQR 154–471 cells/mm^3). The increase in the median baseline CD4s between the two groups was significant (p=0.0002). There was, however, no significant difference in numbers of ART-naïve starts between the two groups (p=0.24)

Conclusions: Despite the median CD4 in both groups remaining low, there has been a significant increase in the median baseline CD4 since implementing UTT in South Africa. UTT has not as yet translated into the anticipated increase in numbers of patients linking to ART. The number of missing baseline CD4s, particularly in Group 1, is noted as a limitation in this analysis.

78 Methodological Considerations for Measuring Disparities in Viral Suppression: A Case Study of Caribbean and Latinos Immigrants in Florida

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Background: Viral suppression (VS) can be calculated in many ways. For example, VS can be calculated for all people living with HIV (PLWH) or exclusively for PLWH in HIV care. We used a case study to examine the impact and interpretation of these two measures and concomitant policy implications.

Methods: Using HIV surveillance data from 2015, we measured and compared VS (defined as viral load of 1 and VS2) among Afro-Caribbean and Latino immigrants in Florida. VS1 was calculated among all PLWH regardless of in care status, and VS2 was calculated among PLWH in HIV care. Multilevel logistic regression was used to estimate VS adjusted odds ratios (aOR) and 95% confidence intervals (CI) with non-Hispanic Whites and US-born Latinos as referents.

Results: VS results were: (1) Haitians: VS1 aOR 1.82 (95% CI 1.68–1.98) and VS2 aOR 0.87 (95% CI 0.79–0.96); (2) Mexicans: VS1 aOR 1.82 (95% CI 1.55–2.14) and VS2 aOR 0.65 (95% CI 0.47–0.88) and (3) Central Americans: VS1 aOR 1.29 (95% CI 1.12–1.48) and VS2 aOR 0.69 (95% CI 0.55–0.88).

Conclusions: In this case study, Haitians, Mexicans and Central-Americans in care were more likely to achieve VS compared to those not in care. There are inconsistent results for VS depending on the denominator used. VS1 among all PLWH can be used to estimate population disparities, while VS2 among PLWH in care can be used to evaluate patient progress. For evaluation, selection of the base population should be informed by whether there is a focused interest in assessing patient progress and clinical performance with regards to HIV continuum milestones, or a broader objective to assess overall care continuum outcomes or assessing disparities among those living with HIV in a geographic area.

81 Influence of Health Insurance Status on Sustained Virologic Response for the Treatment of Hepatitis C Virus Infection Using Sofosbuvir-Based Antiviral Regimens: A Retrospective Study in a South Florida Community Hospital

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Background: Direct-acting antivirals (DAAs) for the treatment of hepatitis C virus (HCV) infection have shown a high rate of effectiveness in academic centers treating well-insured populations. We aimed to evaluate the efficacy of sofosbuvir-based therapy in the treatment of HCV-infected individuals in the clinic setting of a community hospital in South Florida and to determine whether there is an association between health insurance status and sustained virologic response (SVR).

Methods: Clinical data of consecutive HCV-infected patients treated with sofosbuvir-based regimens at a single outpatient unit at the Memorial Healthcare System, Hollywood, Florida from January 2015 to April 2017 were retrospectively reviewed. HCV RNA, patient/treatment characteristics, and health insurance status were assessed.

Results: Sofosbuvir-based therapy was initiated in 82 patients with 73% of these being uninsured. The mean age was 53 years, and 57% were male. The most common HCV genotype was 1 (80%), followed by genotype 3 (14%) and genotype 2 (6%). Seven (9%) patients had history of prior HCV treatment failure, and 28 (34%) were co-infected with HIV. Median baseline HCV RNA was 2.1 X 106 IU/mL. The most commonly prescribed regimens were sofosbuvir-ledipasvir (63%), sofosbuvir-ribavirin (13%), and sofosbuvir-daclatasvir (11%). SVR rate was high across all regimens: sofosbuvir-ledipasvir 98%, sofosbuvir-ribavirin 91%, and sofosbuvir-daclatasvir 100%. SVR rate was comparable in HCV mono-infected and HCV/HIV co-infected patients receiving sofosbuvir-ledipasvir (93% vs. 91%, p=0.36). SVR rate in uninsured patients were similar to those with insurance (100% vs. 95%, p=0.144). Loss to follow up occurred mainly in uninsured vs. insured patients (23.7% vs. 4.5%, p=0.048).

Conclusions: SVR rates were high with sofosbuvir-based DAA regimens across all genotypes and regardless of HIV coinfection. Lack of insurance did not influence SVR rates due to enrollment into the patient assistance programs (PAPs), allowing uninsured patients to access free medication through pharmaceutical company sponsorship. Loss to follow-up was higher in uninsured patients. Results from this study can inform the care of uninsured patients with HCV infection and lend importance to the continued availability of PAPs and the importance of retention in care for these populations.

82 Alcohol Use and Antiretroviral Therapy Adherence Among Adults Living with HIV/AIDS in Sub-Saharan Africa: A Systematic Review and Meta-Analysis

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Background: Antiretroviral therapy (ART) is highly efficacious in reducing HIV transmission and improving health outcomes among people living with HIV (PLWH), but low adherence undermines its efficacy. Research examining modifiable factors associated with ART adherence is critical for informing novel intervention development, particularly in countries with high HIV prevalence. Alcohol use has been linked with ART non-adherence in studies across sub-Saharan Africa; however, no review has pooled findings.

Methods: We searched PubMed, CINAHL, EMBASE, and PsycINFO for articles through November 2017 with terms related to ART (e.g., "antiretroviral", "HAART"), adherence (e.g., "nonadherence", "compliance", "viral load", "CD4"), alcohol (e.g., "drinking", "AUDIT"), and sub-Saharan Africa (e.g., "Africa", country names). One author reviewed titles/abstracts (n=461) and two authors reviewed full texts (n=229) for inclusion. Discrepancies were resolved by group consensus. Studies were retained if they: (1) measured alcohol use, adherence, and their association; (2) included adult PLWH on ART; and (3) included quantitative analyses. Data will be extracted on a standardized form and a random effects meta-analysis will be conducted to summarize the overall effect of alcohol use on ART adherence.

Results: Fifty-nine articles met our criteria and were included in the meta-analysis. All studies measured alcohol use via self-report. ART adherence was assessed using self-report, electronic monitoring devices, plasma drug levels, or CD4 cell count and viral load proxy measures. Meta-analysis results examining the influence of alcohol on ART adherence, as well as any differences by gender and adherence measurement, are forthcoming and will be included in the presentation.

Conclusions: This body of evidence on associations between alcohol use and ART adherence is important for the development of behavioral interventions to achieve UNAIDS 90-90-90 HIV treatment targets in Sub-Saharan Africa.

84 Long-Term Maintenance of Stability and Changes over Time Among Initially Stable HIV-Infected Patients in Zambia

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Background: Current recommendations are to reduce the visit frequency for stable HIV-infected individuals, but little is known about the durability of stability and how it varies over time for this patient population. We use multistate modelling to describe longitudinal changes in stability among stable patients receiving visit spacing in Zambia.

Methods: We analyzed a cohort of stable HIV-infected adults (on ART with medication possession ratio (MPR) ³0.85 for >1 year, CD4 >200 cells/µl for >6 months) receiving three-month visit intervals between August 1, 2013 and July 31, 2015 in Zambia. We performed a weighted multistate analysis—using outcomes ascertained from random tracing of patients lost to follow-up (LTFU, >90 days late for last visit)—to estimate the prevalence of six care states over time since being fist considered stable: (1) Continuously Stable; (2) Stable, previously unstable; (3) Unstable, continuously retained; (4) Unstable, previous LTFU; (5) LTFU; (6) Died.

Results: 25,536 patients (67.0% female; median age 38y [IQR 33–45], median time to stability 580d [IQR 430–910]) were considered stable at some point during their care and made a clinic visit during our observation period. At two years, only 39.7% were still considered stable (17.2% continuously stable [CI 13.7–20.6%] vs. 22.5% with prior instability [CI 21.6–23.3%]) while 50.1% were unstable (35.3% with continuous retention previously [CI 34.3–36.3%] vs.14.8% with previous LTFU [CI 14.1–15.6%]). 8.6% were LTFU [CI 8.1–9.2%] and 1.6% had died [CI 1.4–1.9%].

Conclusions: Among initially stable patients, stability and retention fluctuate significantly over time with very few patients consistently maintaining consistent stability over time. These findings highlight the need for careful consideration of optimal monitoring strategies for stable patients with decreased facility contact. Understanding drivers for loss of stability can help to target interventions to maintain long-term stability in this population.

85 Elimination of Vertical Transmission of HIV in Brazilian Municipalities: Design of Validation Tools

Andrea Beber (presenting)[1], Francisca Lidiane Freitas[1], Fernanda Fonseca[2], Filipe Perini[1], Alexana Tresse[1], Fernanda Rick[1], Igor Kohiyama[1], Flavia Kelli Pinto[2], Maria Vitória Gonçalves[2], Adele Benzaken[1]

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Background: In August 2017, the Ministry of Health of Brazil published a framework to certify municipalities that achieve elimination of vertical transmission (from mother-to-child) of HIV (EVT-HIV). The validation tools were adapted from guidelines established by the Pan American Health Organization (PAHO/WHO), with the purpose of informing the consolidation of municipal information.

Methods: A team of experts adapted the PAHO/WHO validation tools to local reality. The questions evaluate laboratory and care, epidemiological surveillance, human rights, public policies, and the monitoring system. Before the publication of the guidelines, a pilot study was carried out in an eligible municipality in order to test their applicability. PAHO/WHO's programmatic areas were kept, but the form and content of the questionnaires, as well as the competency flowcharts for the operationalization of the certification process, were adapted to take into account the reality of the Brazilian public health system.

Results: Brazil has 5,570 municipalities with distinct geographical, cultural and healthcare access realities. Considering Brazil's goals to certify the country as a whole, the challenge was to start the process in municipalities that previously had achieved impact indicators, had established processes according to guidelines, and had more than 100,000 inhabitants. The definition of the national criteria for EVT-HIV certification allowed the identification of 110 eligible municipalities. In September 2017, five municipalities submitted their request, and, in December 2017, Curitiba became the first to receive the certificate.

Conclusions: As a result of the elaboration of validation tools for EVT-HIV certification, adapted to the reality of the Brazilian Health System, it is possible and expected that more municipalities will decide to review their healthcare processes, mobilizing towards achieving this crucial EVT-HIV goal. We also hope that the model used in Brazil may serve as an example to encourage other countries with similar features to work towards the EVT-HIV.

88 ART Adherence and Social Network Structure and Function Among HIV-Infected Women in Cape Town, South Africa

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Background: Despite research suggesting that the structure and function of social networks likely influence adherence to antiretroviral therapy (ART), few studies have examined these factors among people living with HIV. Traditional methods of collecting comprehensive social network data are burdensome and result in high participant fatigue. We customized and pilot-tested a novel tablet-based network data capture instrument, Network Canvas, to collect social network data among women living with HIV. We examine the structure and function of their social networks and explore associations between network characteristics and women's ART adherence.

Methods: Working with a cohort of HIV-infected women (n=64) enrolled in an ongoing NIH-funded trial in a peri-urban setting in Cape Town, South Africa, we enrolled a convenience sample (n=21) in this sub-study. ART adherence (>90%) was measured in the parent trial through medical record abstraction of pharmacy visits and refill data. Sub-study participants fully enumerated their social networks, described its functionality (e.g., provision of specific types of support), and provided feedback on their experience with the tool. Data were analyzed in R and SPSS.

Results: A third (33.3%) of participants were non-adherent over the 6-month study period. Structural network characteristics were not significantly associated with ART adherence. On the other hand, notable trends and significant associations were observed for functional network characteristics. For example, adherent participants received help getting to a medical appointment from a greater proportion of their social networks compared to non-adherent participants (43.8% vs. 17.2%; p=.007). High levels of satisfaction with the instrument were reported.

Conclusions: This novel, tablet-based instrument is an acceptable and feasible method for collecting social network data among people living with HIV. Functional social network characteristics, particularly those related to appointment-related social support, should be further examined so as to expand our understanding of the factors shaping adherence to treatment.

89 Predictors of Pre-Exposure Prophylaxis (PrEP) Use Among Young Gay and Bisexual Men (16–24) Across the United States

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Background: Young gay and bisexual men (YGBM, 13–24) make up 92% of new HIV diagnoses among men. Pre-exposure prophylaxis (PrEP) is highly effective in the prevention of HIV transmission, however unique barriers to uptake among YGBM is largely unknown. Identifying such barriers would allow for intervention development and implementation upon the approval of PrEP for those under 18. We examined group differences between those with and without experience using PrEP among a national sample of YGBM.

Methods: Data for these analyses were collected from an online screening survey used to recruit for multiple projects from November 2017 through February 2018. Participants provided data on demographics and PrEP use. Inclusion criteria for these analyses were: being male-identified, gay or bisexual, HIV-negative, and between 16–24 years old. We conducted binary logistic regressions to examine differences in PrEP use (PrEP-naïve vs. PrEP experienced).

Results: In total, 10,917 YGBM completed all measures, 925 (8.47%) reported experience with PrEP. Being gay versus bisexual (AOR: 0.42; $p<0.001$) and those 18 and over (AOR: 0.17; $p<0.001$) had higher odds of having experience with PrEP. Compared to those on their parents' insurance, those with their own insurance had higher odds (AOR: 0.66; $p<0.001$) and those with no insurance had lower odds (AOR: 1.60; $p<0.001$) of having experience with PrEP.

Conclusions: Few YGBM under 18 had experience with PrEP. A unique barrier to PrEP use among YGBM may be the nature of their insurance coverage, as those on their parents' (50%) were less likely to have any experience taking PrEP. A drug coverage program for youth that obviates the need for insurance altogether may be necessary for YGBM at risk for HIV acquisition.

90 The PrEP Cascade in a Cohort of African-American and Latino Young Men Who Have Sex with Men: Implications for Intervention

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Background: No group is at greater risk for acquiring HIV than young men who have sex with men (YMSM), particularly Black/African American (AA) and Hispanic/Latino (L) YMSM living in inner cities, who account for the largest number of new infections. While PrEP holds enormous promise for HIV prevention, AA/L-YMSM are the least likely population to receive care and use PrEP.

Methods: As part of the Healthy Young Men's Cohort Study, 448 AA/L YMSM were recruited from public venues and social media. Recruitment and baseline data collection occurred between June 2016 and September 2017; follow-up data collection occurred six months later. Young men were eligible to participate if they were 16 to 24; male; self-identified as gay, bisexual, or uncertain; had a same-sex encounter within the previous 12 months; and self-identified as AA, L, or multi-ethnic.

Results: A total of 76% were eligible for PrEP using CDC's guidelines — i.e., 31% tested positive for at least one STI, 70% had engaged in condomless anal intercourse (CAI) in the last 30 days. While 89% had heard of PrEP, only 20% had ever used PrEP and 10% were currently using PrEP. Participants who had seen a doctor and/or who reported wanting/needing care within the past 12 months, including mental health services, were significantly more likely to have used PrEP. Moreover, participants at greatest risk for HIV transmission — i.e., STI diagnosis, # sexual partners, CAI, sexual compulsivity — were significantly more likely to have ever used PrEP. Remarkably, we did not find differences in PrEP use by race/ethnicity, drug use, or stressful life events.

Conclusions: Given that so few at-risk, CDC-eligible participants had ever used PrEP, there is clearly a need for developmentally-tailored interventions that are designed to engage youth in primary/HIV prevention care. Findings also suggest the need for tailored behavior change and PrEP uptake and adherence interventions.

91 Factors Associated with Having Never Heard of PrEP in a US National Cohort Study of Cismen-, Transwomen-, and Transmen Who Have Sex with Men

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Background: In the six years since the FDA approved once-daily oral PrEP, awareness among key populations like cismen-, transwomen-, and transmen who have sex with men has risen steadily. Yet, a small, but important, minority still don't know what PrEP is.

Methods: Together 5,000 is a cohort study of 16–49 year olds at risk for acquiring HIV. Recruitment began October 2017 via sexual-networking apps for online surveys. As of February 2018, we have enrolled 3,223 cismen, 27 transwomen, 22 transmen, and 38 gender non-binary individuals who have sex with men. Enrollment closes June 2018 and results from the full cohort will be reported at IAPAC.

Results: Mean age was 29.9 and 51.2% were persons of color. Nearly half (43.5%) said they did not know their HIV status and the remainder said they were HIV-negative. In total, 4.8% of participants had never heard of PrEP and this was not significantly associated with gender identity. Compared to those who had heard of PrEP, those having never heard of PrEP were significantly less likely to have health insurance (25.0% vs. 36.6%), know someone who is HIV-positive (77.3% vs. 60.6%), be White (49.3% vs. 38.8%), and know their HIV status (57.4% vs. 39.4%). They were equally likely to have a primary care provider (PCP, 49.8% overall), for their provider to know they have sex with men (70.5% overall), and to have been diagnosed with an STI in the past year (16.8% overall).

Conclusions: A range of factors were associated with having no knowledge of PrEP. Although those with no knowledge of PrEP were less likely to have health insurance, they were equally likely to have a PCP, be "out" to that PCP, and to have been diagnosed with an STI recently. Thus, PCPs and front-line STI clinics are important gatekeepers to inform patients about PrEP.

93 Where Are Key Populations First Hearing About PrEP, and What Has the Biggest Influence on Their Current Views Toward It? Results from a US National Cohort Study of Cismen-, Transwomen, and Transmen Who Have Sex with Men

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Background: Awareness of PrEP and attitudes toward it are of critical importance to successful adoption among key populations like cismen-, transwomen-, and transmen who have sex with men. We report on where these individuals first heard about PrEP and what source has the biggest influence on their current views toward it.

Methods: Together 5,000 is a cohort study of 16–49 year olds at risk for acquiring HIV. Recruitment began October 2017 via sexual-networking apps for online surveys. As of February 2018, we have enrolled 3,223 cismen, 27 transwomen, 22 transmen, and 38 gender non-binary individuals who have sex with men. Enrollment closes June 2018 and results from the full cohort will be reported at Adherence 2018.

Results: Mean age was 29.9 and 51.2% were persons of color. Nearly half (43.5%) said they did not know their HIV status and the remainder said they were HIV-negative. Nearly all, 95.2% had heard of PrEP and this was not significantly associated with gender identity. The most common sources from which participants first heard of PrEP, and the source having the biggest influence on participant's current attitudes toward PrEP were social media (29.6% and 24.3% respectively) and via friends (24.7% and 22.2% respectively). In contrast, few participants first heard of PrEP via a medical provider (4.8%) or community-based organizations (CBOs, 3.7%), and few attributed their current views on PrEP to medical providers (7.8%) or CBOs (4.2%). There was also a significant overlap between where participants first heard about PrEP and the source that had the biggest influence on their current views toward it.

Conclusions: Although medical providers and CBOs play critical roles in the adoption of PrEP, our findings suggest that social media and friendship networks may be important and underutilized avenues through which to conduct PrEP outreach and education.

95 Geo-Mapping HIV-Specialty Pharmacists in the US: Phase 1

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Background: In 2016, despite recent measures, 39,782 new HIV infections occurred in the US. Co-morbid conditions in PLWH develop earlier and progress faster. Pharmacists with HIV-focused training are in demand, especially for patients who need additional engagement to attain optimal adherence or have moved to an area where no HIV medical providers may be present. No database or map exists of HIV-specialty pharmacists.

Objectives: Overall study aims were to: (1) create a map of HIV-specialty pharmacists [Phase 1], (2) describe the environment, and (3) describe pharmacist qualifications.

Methods: In fall 2017, a forced-choice, logic-based, online, anonymous, optional question completion survey was developed, validated, IRB approved, then deployed. Survey distribution occurred through: (1) multiple pharmacy and medical, HIV-focused and non-HIV focused professional organizations' memberships, (2) US accredited colleges and schools of pharmacy's clinical experiential coordinators, and (3) a nationwide pharmacy chain. Additionally, the survey was designed so that it could be forwarded by recipients to their personal contacts (may not have received it otherwise). This "snowballing" recruitment permits enhanced distribution through local, grassroots efforts but prevents researchers from being able to calculate response rates.

Results: The respondents (n=143) representing 36 states reported that 65% primarily provide HIV care, 48% serve >100 PLWH annually, 93% see >10 patients/week and government funding supports 79%. High HIV incidence states/regions not represented included Louisiana and Washington, DC. Southeastern US states represented six of the top 11 highest patient (HIV incidence per 100,000 persons): respondent ratios [Georgia (564:1) to Arkansas (210:1)].

Conclusions: The survey identified 143 experienced pharmacists with predominantly high volume PLWH engagement in 36 states, but critical gaps exist in states with high prevalence. Serial deployment with enhanced outreach is needed to determine if gaps are real or study methodology related.

96 A Picture is Worth a Thousand Pills: Using Film Noir to Facilitate Adherence Monitoring in FQHCs

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Background: Federally Qualified Health Centers (FQHCs) often have no formalized protocols to monitor patient medication adherence. As a result, focus on adherence can be lost, with negative health outcomes, including loss to care. To close this gap, a three-part solution (flowchart with curriculum, resource guide, and film series) was developed and implemented.

Methods: A curriculum for healthcare providers was developed for seven local FQHCs to facilitate discussions during patient visits for identification and overcoming of medication adherence barriers. Existing tools were assembled and centralized in an accompanying resource guide. A novel 5-part film noir webinar series, "Case of the Missing Doses," was created to train FQHC staff members who work with patients. Four modules each explore a different adherence barrier: effective communication during patient visits, substance abuse, mental health, and housing stability, within the construct of a "whodunit" mystery; a summarizing fifth module solves the mystery. Online pre- and post-assessments accompany each module, allowing basic evaluation of performance.

Results: Directive from management is critical for ensuring participation. After five months, 14 out of 47 invited staff (29.8%) have completed all five modules; 85.7% of these were from two FQHCs where nursing managers had taken interest. Those who start viewing the modules are likely to complete them. Of 16 staff who viewed the first module, 14 (87.5%) viewed all five. The compelling film clarifies the flowchart and curriculum. Inclusion of tools in the resource guide improves ease of access and facilitates adoption.

Conclusions: As next steps, we intend to schedule follow-up with management of FQHCs to encourage completion, re-survey webinar completers after six months to assess knowledge retention, and ascertain success of curriculum adoption. We also plan to test generalizability of the film series for care of other chronic diseases and diverse populations.

97 Impact of VIHtalízate, a Patient-Centered HIV Management Program in Colombia

Angelica Borbon Ramos (presenting)[1], Walter Osorio[2], Luisa Pombo[3], Astrid Cuevas[1]

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Background: Colombia's 2016 HIV scenario evidences opportunities for improvement in each of the 90-90-90 goals, especially in diagnosis (60.8%) and control or viral suppression (57.5%).

Methods: VIHtalízate is a Health Care Support Service aimed to close the gap in the first and second 90s of the HIV cascade in Colombian institutions through disease awareness campaigns, education in adherence management, screening implementation, and clinical pathway improvement.

Results: During 2016 and 2017 the following goals were achieved: 1108 people between 16 and 28 years old attended a disease awareness and sexually transmitted disease prevention campaign. Among them, 34 new cases were identified (3.07% incidence). A total of 65 new cases were identified among high risk population (2.81% incidence). All identified cases received counseling regarding healthcare access; ten of them rejected interventions. Of the remaining 55, 47% received care in the first month, 24% in the second month and 16% in the third month. At the six-month cutoff, 78% of attended patients initiated therapy. Thirteen health care organizations and six regional governmental entities covering 400 health care professionals attended conferences in therapy adherence management, which included delivery of tools (documents and a GSK-developed app) for adherence assessment. The talk was delivered to an international audience of 300 professionals. Seventeen health care organizations participated in a workshop of clinical performance outcomes in HIV, which included tools for pathway diagnosis and promotion of self-improvement. Three institutional health care models were evaluated using a novel tool developed by VIHtalízate based on international standards. The opportunities identified led to improvement plans with 6,900 potential beneficiaries.

Conclusions: An articulated multi-sector strategy focused on young population, timely diagnosis, adherence management and continuous improvement of health care models may contribute to close the gap in the 90-90-90 UNAIDS goals.

98 Social Network Members and PrEP Use Among Women

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Background: Oral daily pre-exposure prophylaxis (PrEP), is a prevention method for HIV-negative individuals that has been shown to reduce HIV acquisition risk by more than 90%. Despite its known efficacy PrEP awareness and uptake among high-risk women in the United States is low. "Be PrEPared" is an online health education intervention that aims to increase knowledge and awareness about PrEP among women of color. This study used data from the "Be PrEPared" study to examine the role of social network members on potential PrEP uptake within a sample of adult women.

Methods: This study sample included 995 respondents (mean age 29.9) with Latina (n=700), African American (n=258) and White (n=204) cis-gendered HIV-negative women. Potential PrEP uptake was measured using a dichotomous variable: "I would take PrEP to prevent the spread of HIV" (yes/no). Social network predictors of PrEP uptake included yes/no responses to whether sexual partners, peers, family, or providers would approve of the respondent using PrEP, and whether the respondent would use PrEP if it were recommended by the network members.

Results: Overall, 95 percent of the sample reported they would take PrEP to prevent HIV-infection. Multivariate models were constructed to adjust for age, income, and education, as well as HIV knowledge, testing, and attitudes towards condom use. Results indicated that approval and recommendations from social network members including family (OR 3.86, p=0.03), peers (OR 4.21, p=0.02), and providers (OR 10.9, p<.001) significantly increased the odds of potential PrEP uptake.

Conclusions: This study demonstrates the importance of social network members in potential PrEP uptake among adult women. It is important to integrate the role of peer, family, and provider support into PrEP uptake and adherence campaigns. These data are especially important given the low PrEP awareness and uptake among high-risk adult women in the United States.

99 Satisfaction with Supportive Housing Programs for People Living with HIV

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Background: Recent studies show that stable housing for people living with HIV/AIDS (PLWHIV) can lead to better Antiretroviral Therapy (ART) adherence and treatment access, improved health, and reduced risk behaviors. While it is important to research the benefits that result from stable housing, it is also important to consider satisfaction rates with different supportive housing models for PLWHIV, with the goal of improving health outcomes. Supportive Housing: Optimizing Placements (SHOP) is a multi-site longitudinal research study exploring the health outcomes of previously homeless or unstably housed individuals, enrolled in permanent supportive housing programs in Chicago. SHOP aims to evaluate the different models for permanent supportive housing programs and determine which models are more beneficial for different types of clients.

Methods: Baseline surveys have been collected from 165 participants living with HIV, from 25 supportive housing programs. Interviewers administer follow-up surveys at 6-month intervals for 18 months. As part of the study, participants answer multiple choice questions about their housing satisfaction. Descriptive statistics were used to calculate percentages for the results.

Results: Using this data, we explored the satisfaction with scattered site versus fixed site housing programs for participants living with HIV. Among 165 PLWHIV, 73.68% of participants in fixed site programs reported being satisfied with the place they live in comparison to 66.99% of participants in scattered site programs.

Conclusions: PLWHIV in fixed housing sites reported slightly higher satisfaction than those in scattered housing sites. Further examination for this project will look at the different elements of living environments and reported satisfaction with each element. Additional analyses will also look at quality of life and adherence to HIV medication. These preliminary results should inform future research regarding the value of fixed site housing programs for PLWHIV.

100 Economic Vulnerability and Non-Initiation of Antiretroviral Therapy in India: A Qualitative Study

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Background: In India, which has adopted a "treat-all" policy for antiretroviral therapy (ART), many people living with HIV (PLHIV) do not successfully initiate ART after diagnosis. We conducted a clinic-based qualitative study on PLHIV in Chennai, Tamil Nadu to explore psychosocial and structural factors that influence ART non-initiation.

Methods: Semi-structured interviews were conducted in 2017 with patients at the Y.R. Gaitonde Centre for AIDS Research (YRG CARE), one of the largest private providers of HIV care in India. Using maximum variation sampling, we purposively sampled participants based on ART initiation vs. non-initiation, gender, and CD4+ count (> or < 500 cells/mm^3). Interviews were translated into English and a thematic analysis was conducted using a multistage qualitative data analysis process supported by Dedoose software.

Results: A total of 23 men and 14 women were interviewed; median age was 42 (IQR, 36–48) and median CD4+ was 395 (IQR, 227–601). Persistent depressive symptoms and illicit substance use were infrequently reported. Almost all participants felt that ART would sustain or improve health, thereby allowing the maintenance or restoration of social standing and economic viability. Participants were distrustful of HIV care freely available at nearby government facilities; many thought the ART given at these facilities was different and inferior. Faced with the perceived need to pay for medications and prohibitive transportation costs, non-initiators with high CD4+ counts often decided to wait to start ART until they experienced symptoms whereas non-initiators with low CD4+ counts often started ART but defaulted quickly after experiencing financial stressors or side effects that required the expense of another clinic visit to address.

Conclusions: Economic vulnerability was the biggest impediment to ART initiation among PLHIV in southern India. Improving perceptions of quality of care in the public sector and using better tolerated ART may be important in encouraging ART initiation in India.

101 Identifying Neighborhood and Social Network Factors that Influence HIV Care Engagement Among Black MSM/TW

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Background: Substantial disparities in the U.S. HIV care continuum exist for Black men who have sex with men and transwomen (BMSM/TW). Identification of neighborhood- and social network-level factors and mechanisms that influence HIV care engagement is essential to improve care engagement for BMSM/TW.

Methods: In-depth interviews with 24 Black (non-Hispanic) HIV-infected MSM/TW were conducted in 2017–18, with purposive sampling by retention in care and neighborhood to ensure diversity. Eligibility include: (1) biologic male at birth, (2) anal sex with a man in past six months, (3) age ≥18 years, and (4) reside in one of several New York City neighborhoods. Interviews were digitally recorded and professionally transcribed, with coding and analysis completed using Atlas TI.

Results: Neighborhood factors that influence linkage, engagement, and adherence in HIV care for BMSM/TW include neighborhood poverty ("People in the projects–they don't take [HIV] as serious because they don't have the resources."), community violence and open drug use ("a lot of violence in my neighborhood, don't feel like walking outside [for my appointment]") and perceptions of HIV stigma ("It's taboo and unheard of and nobody talks about it."). Participants valued convenience of receiving care and filling prescriptions in home neighborhoods, though many described this as "too close to home" due to perceived neighborhood stigma. Social network factors include linkage to care through social/familial ties, support and "checking in" among HIV+ social ties, medication nonadherence norms within networks ("My friends don't believe in taking medication."), fear of judgement impacting disclosure ("I started getting private because people used it against me."), and stressed/overburdened networks that "emotionally can't handle it."

Conclusions: By identifying key neighborhood- and social network-level factors such as neighborhood poverty, HIV stigma, social norms around medication nonadherence, and utilization of social/kin network support, interventions can be developed to improve HIV care linkage, engagement, and adherence among BMSM/TW.

102 Post-Partum Retention in Care and Viral Suppression Among Women with Human Immunodeficiency Virus (HIV) Infection in Prenatal Care at the Vanderbilt Comprehensive Care Clinic, 1999–2016

Cassandra Oliver (presenting)[1], Peter Rebeiro[2], Mary Hopkins[3], Bev Byram[3], Lavenia Carpenter[4], Kate Clouse[3], Jessica Castilho[3], William Rogers[5], Megan Turner[3], Sally Bebawy[3], April Pettit[2]

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Background: Retention in care (RIC) and viral suppression (VS) are associated with reduced HIV transmission and mortality. Studies addressing post-partum RIC and VS in the United States are limited by small sample sizes and short follow-up periods.

Methods: HIV-positive, adult women with ≥1 prenatal visit to Vanderbilt's Obstetric Comprehensive Care Clinic and delivering at Vanderbilt University Medical Center from 1999–2015 were included. Lack of RIC was defined as not having ≥2 encounters per year, ≥90 days apart, and lack of VS was a viral load >200 copies/mL. Data were observed over 12-month periods after delivery until death, administrative censoring (December 31, 2016), or loss to follow-up (no visit for >12 months with no future visits). Modified Poisson regression estimated relative risks (RR) with 95% confidence intervals (CI), adjusting for substance use, age, year, race, HIV transmission risk factor, education, insurance, mental health diagnosis, and marital status. Generalized estimating equations accounted for multiple outcomes per woman. Unknown insurance was multiply imputed.

Results: We included 309 deliveries among 247 women over 2,070 person-years of follow-up; median age was 28 years and 48.4% were African-American. Overall, 37.6% person-years lacked RIC and 50.4% lacked VS. Lack of RIC was more likely among women who used substances (RR=1.34, CI: 1.04–1.73) and had less than a high school education (RR=1.27, CI: 1.00–1.61) compared to at least a high school education. Lack of VS was more likely among women aged 25-29 (RR=1.32, CI: 1.01–1.69) and 30-34 (RR=1.08, CI: 1.00–1.15) compared to ≥40 years and unmarried (RR=1.19, CI: 1.03–1.39) compared to married women.

Conclusions: Lack of RIC was more likely among women who used substances and had lower educational attainment. Lack of VS was more likely among younger and unmarried women. Studies evaluating interventions to improve post-partum RIC and VS in these subgroups are needed.

106 Impact of a Personalized Clinical Decision Aid on Informed Decision-Making about HIV Pre-Exposure Prophylaxis Among Men Who Have Sex with Men

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Background: Pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) has downsides, including medication intolerances, cost, and inconvenience, and is underutilized given its protective benefits. Clinical decision aids (CDAs) could facilitate informed decision-making about PrEP for MSM.

Methods: Using the Ottawa Decision Support Framework, we developed and tested a CDA (Understanding PrEP) for MSM-clinician dyads that integrates an HIV risk estimator (San Diego Early Test) and exercises to weigh positive and negative attributes of PrEP. Dyads at an academic medical center or a community health center specializing in healthcare for MSM used the CDA during actual or imitation clinical encounters. MSM completed surveys assessing demographics, HIV risk behaviors, PrEP knowledge and interest, decisional processes, and acceptability of the CDA before and after encounters; PrEP use was assessed at three months. Our primary outcome was change in patients' Decisional Conflict Scale scores, a validated measure of decisional uncertainty (range 0-100, higher scores equal greater uncertainty).

Results: From February 2017 to February 2018, 57 MSM (median age 34y, 61% white) completed dyadic visits; 60% have completed 3-month surveys thus far. At baseline, 49% of MSM reported non-condom anal sex or STDs in the prior year. Decisional Conflict Scale scores decreased after encounters (mean score=43 before, 19 after; $p<0.05$) and knowledge on a 9-item scale improved from a mean score of 4.8 before to 6.7 after ($p<0.05$). Most MSM (89%) rated the CDA as somewhat/very helpful and 86% would recommend to peers. After encounters, 51% of MSM indicated interest in initiating PrEP and were referred to PrEP providers; at 3-months, 67% of those had received prescriptions and 33% were using PrEP.

Conclusions: Our decision aid demonstrated acceptability and improved knowledge about PrEP for MSM, thereby improving informed decision-making. Further studies to assess whether it facilitates access and persistence with PrEP for MSM are warranted.

110 Primary Care Providers' Perspectives on Using Automated HIV Risk Prediction Algorithms as Clinical Decision-Support to Identify Potential Candidates for PrEP

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Background: Primary care providers (PCPs) lack tools to identify appropriate candidates for pre-exposure prophylaxis (PrEP). We previously developed and validated automated HIV risk prediction algorithms to identify potential candidates for PrEP using electronic health records data. The objective of the current study was to assess PCPs' perspectives on using clinical decision-support based on these algorithms to identify PrEP candidates in clinical practice.

Methods: We convened three focus groups with PCPs from an ambulatory healthcare organization and one focus group with PCPs from a community health center specializing in sexual healthcare. Discussions were transcribed and content analysis was used to identify emergent themes.

Results: Of 42 participants, 67% were female, 79% were white, and 81% practiced at the ambulatory healthcare organization; 57% had experience prescribing PrEP. PCPs indicated beliefs that prediction algorithms could facilitate patient-provider communication about HIV risk, destigmatize and standardize HIV risk assessments, help patients accurately perceive their risk, and identify PrEP candidates who might otherwise be missed by busy clinicians. Algorithms would ideally be minimally time-consuming, reliable, and user-friendly. Providers had concerns about patients reacting negatively to having their medical records searched to assess HIV risk, about harms from potential breaches in confidentiality, and about the accuracy of algorithm predictions; most would trust their clinical judgment based on patients' histories over algorithm predictions. PCPs would prefer decision-support that provided descriptive information about patients' HIV risks as well as prescriptive guidance on risk thresholds meriting PrEP. PrEP-inexperienced PCPs valued additional decision-support about how to prescribe PrEP and/or refer patients to specialized colleagues for PrEP.

Conclusions: Primary care providers were receptive to using automated algorithms to identify PrEP candidates but indicated concerns about their accuracy and patients' perceptions of their use. Successful implementation of these tools require tailoring them according to providers' preferences and addressing providers' concerns about their use.

111 Cost of HIV Care Services in Kenya's Private Sector: An Alternative from Public Provided "Free" HIV Care Services

Stephen Mutuku (presenting)

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Background: Costing estimates direct costs of providing HIV services from healthcare facilities, laboratories and pharmacies. The services include ARVs provision and laboratory monitoring at different levels of private health providers. It also identifies supplies to PLWHIV in private health facilities including stand-alone laboratories and pharmacies. The objectives include: (1) compare costs of delivering HIV/AIDS care and treatment across the existing models of care in the private sector against costs in public health facilities under existing guidelines and; (2) understand the motivations and interests of the private, for-profit players, to provide HIV related services.

Methods: The study utilized the Activity Based Costing (ABC) model to estimate the unit costs. The approach adopted ingredient-based, where all the resources (inputs) in the service provision to one client at a facility are measured and costed.

Results: An inclusion of 21% mark-up on the overhead (e.g: rent, electricity, water, and maintenance) direct cost was estimated as per literature providing a range of 13% to 30%. Dispensing was the largest cost component in ART service provision in tier 2 and 3 facilities. Other such as reception, triage, first and second consultation do not account for a significant proportion of the direct cost of HIV service provision.

Estimated cost of ART provision is US $589 and US $54.33. Costs per Visit is US $147.2 in tier 2 and between US $88.05 to US $107.28 in tier 3 respectively. Tier 4 laboratory costs were the largest component with CD4 Count costing US $285.10, unlike other components which are insignificant to the direct cost. Estimated cost of ART provision is US $1,873.62, and cost per visit is US $468.40.

Conclusions:

A Comparison of Costs in Public and Private Providers

ART Service Provision; Patient Cost per Annum				
Tier	Private Sector		Public Sector	Current practive
	min(USD)	max(USD)	Public Sector (HIV Guidelines 2014)	Cost of ART Provision in Kenya
2	US $353.97	US $824.19	Min. US $507.6	Min. US $159.98
3	US $303.22	US $429.13		Average US $240.33
4	US $1,509.26	US $2,237.97	Max. US $872.6	Max. US $405.6

Source: Survey Data, 2016

113 Retention of Participants in a Hard-to-Reach Population in a Randomized Control Trial

Ingrid Courtney (presenting)[1], Regina Panda[1], Nobukhosi Gwele[1], Bongani Cweya[1], Ingrid Katz[2], Catherine Orrell[3]

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Background: The UNAIDS 90-90-90 treatment target aims to increase the number of people who receive testing, link to antiretroviral therapy (ART) and achieve viral suppression by 2020. However, to reach an AIDS free generation, the needs of the remaining 10-10-10 must still be met.

Methods: We conducted a pilot randomized control trial in a hard-to-reach population of people who face challenges starting ART. We defined our population as those with a known HIV diagnosis, but currently not accessing treatment. Participants were randomized to receive either the intervention, aimed at promoting enduring uptake of treatment, or standard of care. Our intervention consisted of eight sessions delivered weekly over 8–12 weeks by the Treatment Ambassadors (TAs). The TAs are people living with HIV (PLWH) currently in care, trained in motivational interviewing, who provide support for participants as being credible role models with the ability to challenge negative peer norms. Our initial goal was to recruit and enroll 80 participants whom we then followed for a total of six months, including three surveys. We ultimately enrolled 86 participants in total. We assessed in-study retention in this hard-to-reach cohort over this time.

Results: We had a retention rate of 95% of the entire cohort at the three-month follow-up survey, and 100% of the 56 participants who have completed the six month follow-up survey thus far. Of the total participants randomized to the intervention (three withdrew voluntarily, and one left prior to completing the intervention) 91% completed the eight-session intervention.

Conclusions: We managed to retain the majority of this cohort in this hard-to-reach population over six months. Retention was good for both the study intervention and the survey process, and was made possible by utilizing peer support (TAs) and strong personal connections.

114 Gender Differences in Chronic Opioid Use in Patients Living with HIV

Vidhatha Reddy[1], Lisa Vuong[1], Henry Huang[1], **Jennifer Cocohoba (presenting)**[2]

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Background: Many people living with HIV (PLWH) have chronic non-cancer pain and use opioids for pain relief. This study aimed to identify differences in opioid prescribing for male and female PLWH in a patient-centered medical home (PCMH) model of care.

Methods: Electronic medical records identified patients receiving schedule II/III opioids at the UCSF 360 Wellness Center and Women's HIV Program from November 2015–November 2016. Patients with cancer-related pain or being treated for opioid use disorder were excluded. Chronic opioid use was defined as >90 days of therapy. Descriptive statistics were used to summarize patient and regimen characteristics. Groups were compared using chi-square analysis or Student's T-test.

Results: Of 267 PLWH that received opioids, 39 men and 38 (38% vs. 32%) women were prescribed opioids chronically. Mean age was 57 years. Most were Caucasian (84%) MSM (72%) and African American women (62%) who acquired HIV via heterosexual sex (46%). Men were commonly prescribed morphine (46%) and/or hydrocodone (36%), while women often used hydrocodone (42%), methadone (39%), and/or oxycodone (37%). Men using chronic opioids were more likely be diagnosed with depression (72% vs 45%, p=0.01) or anxiety (69% vs. 32%, p=0.001). Women had higher current/historical crack-cocaine use (66% vs. 26%, p=0.002). A large proportion had benzodiazepines co-prescribed (46% vs. 45%). Women had their opioids tapered more often (10% vs. 29%, p=0.03). There was no difference in the proportion of missed clinic visits by gender and most PLWH remained undetectable (75% vs. 71%) and on antiretrovirals (95% vs. 100%) during the study period.

Conclusions: A substantial proportion of PLWH utilize opioids chronically for non-cancer pain without apparent impact on engagement in care or antiretroviral usage. Gender differences in comorbid conditions suggest some targeted strategies that could be employed to minimize opioid overuse, maximize safety, and support engagement in care.

119 Structural Challenges to Viral Load Suppression Among Children and Adolescents in Care

Nandala Betty (presenting)

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Background: Uganda is among other nations that are working towards eliminating HIV infection by 2030 as guided by The World Health Organization (WHO) with focus to the 90-90-90 strategy by 2020. Therefore, efforts have been put in place to ensure 90% of persons infected by HIV should know their status, 90% should be initiated on ART care and 90% of those in care should have a suppressed viral load. TASO Tororo has strived to work towards these targets set by WHO and Ministry of Health, hence registering many adult clients suppressing their viral load. However, most of the children and adolescents have failed to suppress due to structural and systemic challenges.

Methods: School-going adolescents have adherence challenges due to the school schedules that require children to get to school early, hence affecting the morning dose, especially for those who cannot afford breakfast. This mostly affects children in day school given that those in boarding have access to breakfast and some have support from the school nurses as medicine companions. Children faced with family conflict, separation of and from parents are faced with adherence challenges Stigma by siblings and family members that are HIV negative, sexual attraction and disclosure challenges among adolescents have a negative effect to adherence.

Results: Viral load suppression for children and adolescents is affected by other systems that include schools, family relations and sexual reproductive needs of the adolescents.

Conclusions: Achieving viral load suppression among children and adolescents, calls for broader interventions that include schools, family relations and sexual reproductive needs of the adolescents. ART service providers need to support feeding programmes that target school-going children and adolescents from needy families. It is necessary to offer services that seek to enhance family stability for a conducive environment to adherence. It is also necessary to reach out to sexual partners of the adolescents.

120 Associations Among Age, Race/Ethnicity, Alcohol Use and Sexual Risk Among Young Men and Transgender Women Who Have Sex with Men: Baseline Findings from a Randomized Controlled Trial of a Brief Alcohol Use Intervention

Lisa Kuhns (presenting)[1], Anna Hotton[2], Niranjan Karnik[3], Moira McNulty[4], Kristin Keglovitz-Baker[5], John Schneider[4], Geri Donenberg[6], Robert Garofalo[1]

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Background: Prior studies have found an association between alcohol use and sexual risk in both young men who have sex with men (YMSM) and young transgender women (YTW). Given evidence of variation in alcohol use by age and race/ethnicity, moderation of the alcohol use and sexual risk relationship by these factors could have implications for intervention. The purpose of this study was to assess the relationship of alcohol use to sexual risk, and potential moderation, among YMSM and YTW at risk of HIV infection.

Methods: Baseline data were analyzed from an ongoing randomized controlled trial of a brief alcohol use intervention among YMSM and YTW, ages 16–25 seeking HIV testing in three locations in Chicago from 2016–2018. Participants completed HIV testing and a survey of demographics and risk behavior. The relationships among alcohol use, sexual risk, and moderation by demographic factors were assessed in multivariable logistic and negative binomial regression models.

Results: The sample included N=215 participants. The mean age in the sample was 22.9 (SD 2.0, range=16–25), with 89.3% YMSM and 71.6% racial/ethnic minority. Compared to White and Hispanic participants, Blacks had lower alcohol use (AUDIT) scores and were less likely to report condomless anal sex (CAS). In multivariable analysis, higher AUDIT scores were associated with higher frequency of CAS (RR, 2.13; 95% CI 1.19–3.79) and CAS under the influence of substances (RR, 3.60; 95% CI 1.76–7.39). There was no evidence of moderation by age or race/ethnicity.

Conclusions: In our sample of youth at risk of HIV infection, both alcohol use and sexual risk varied by race/ethnicity, but not by age; however, there was no evidence that these factors moderated the alcohol use and sexual risk relationship. Findings contribute to prior evidence that suggest alcohol use is related to sexual risk in YMSM and YTW at risk of HIV infection.

122 Intimate Partner Violence Impacts Adherence to ART: Evidence from Married Couples in Malawi

Amy Conroy (presenting)[1], Anna Leddy[1], Torsten Neilands[1], Nancy Mulauzi[2], James Mkandawire[2]

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Background: Research suggests that intimate partner violence (IPV) interferes with women's adherence to antiretroviral therapy (ART). No studies have examined this link among samples of couples—which could incorporate both partners' perspectives of IPV. In this study, we investigated whether physical, emotional, and sexual IPV were associated with ART adherence among HIV-affected couples from Malawi.

Methods: Couples were eligible if in a non-polygamous relationship for at least six months, age 18 or older, and had at least one partner on ART for two months who had disclosed their HIV status. Couples were recruited through two HIV clinics in the Zomba district when attending appointments. Participants were asked whether they experienced and perpetrated physical, emotional, and sexual violence in the past 12 months. Two measures of ART adherence were assessed: the patient's self-reported 30-day adherence and the partner's estimate of the patient's 30-day adherence. Optimal adherence was defined as 90–100% versus <90% adherence. We used generalized estimation equations clustering on the couple identifier and controlling for demographic, relationship, and treatment-related covariates.

Results: All couples were married and two-thirds were sero-discordant. Women experienced high levels of physical (30%), emotional (43%), and sexual IPV (43%). Over one-tenth of men experienced physical (10%), emotional (17%), and sexual IPV (23%). After adjusting for covariates, being a victim of physical IPV (AOR=0.72, $p<0.001$) and sexual IPV (AOR=0.72, $p<0.05$) were negatively associated with self-reported adherence. Similarly, perpetrating physical IPV (AOR=0.40, $p<0.001$) and sexual IPV (AOR=0.61, $p<0.01$) were negatively associated with partner-reported adherence. Gender did not modify any associations between IPV and adherence.

Conclusions: Together, findings suggest that physical and sexual IPV may lead to suboptimal ART adherence among married couples. Efforts to ensure the HIV-related health of couples must consider approaches that address multiple forms of IPV. This may result in enhanced psychological well-being and HIV treatment outcomes.

123 Impact of a Clinical Decision Aid for Prescribing HIV Pre-Exposure Prophylaxis to Men Who Have Sex with Men on Primary Care Provider Knowledge and Intentions

Victoria Powell (presenting)[1], Kenneth Mayer[2], Kevin Maloney[3], John Wong[4], Ira Wilson[5], Douglas Krakower[1]

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Background: Primary care providers (PCPs) with limited knowledge about pre-exposure prophylaxis (PrEP) represent a barrier to implementing PrEP for men who have sex with men (MSM). Clinical decision aids (CDAs) could facilitate informed discussions between PCPs and MSM about PrEP and increase the intent to prescribe PrEP when indicated.

Methods: Using the Ottawa Decision Support Framework, we developed and tested a CDA for MSM-PCP dyads that integrates an HIV risk estimator (San Diego Early Test) and provider-facing guidance on prescribing PrEP. Following actual or imitation clinical encounters between MSM-PCP dyads at an academic medical center or a community health center specializing in healthcare for MSM, PCPs completed surveys assessing the acceptability of the CDA and their demographics, experience, knowledge, and prescribing intentions for PrEP. We compared outcomes between PrEP-inexperienced and PrEP-experienced PCPs using T-test and Fisher's exact test.

Results: From February 2017 to February 2018, 23 PCPs (median age 29y, 61% female, 78% white, 61% academic medical center providers) completed visits with 57 unique patients; 48% of PCPs were PrEP-experienced. After using the CDA, PrEP knowledge on a 9-item scale increased among PrEP-inexperienced PCPs from a mean score of 5.1 before CDA use to 7.2 afterwards ($p<0.05$) but did not increase significantly among PrEP-experienced PCPs from 7.4 before to 7.7 afterwards ($p=0.1$). Knowledge scores between these groups differed before CDA use ($p<0.05$) but not afterwards ($p=0.2$). More PrEP-inexperienced PCPs (83%) than PrEP-experienced PCPs (27%) indicated that the CDA would increase their intentions to prescribe PrEP to MSM ($p<0.05$). Most PCPs (91%) rated the CDA as somewhat/very helpful and 96% would recommend it to colleagues.

Conclusions: Our clinical decision aid was acceptable to PCPs and improved PrEP-inexperienced providers' knowledge of PrEP and prescribing intentions for MSM. Studies to test the impact of this tool on PCPs' prescribing behaviors are warranted.

124 A Systematic Review of Missed HIV Primary Care Visits and Mortality

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Background: Missing or "no show" of scheduled visits is associated with increased mortality and has been independently associated with mortality beyond the "kept-visit" retention measures currently used as national benchmarks of quality. We believe missed visits are likely an important indicator of health behavior which leads to increased mortality. The objective of this review is to provide a more precise estimate of the effect of missing HIV clinic visits on all-cause mortality by comparing multiple studies with slightly different measures in various patient populations.

Methods: In this systematic review we searched PubMed, Embase, PsycINFO, and CINAHL using a combination and variation of the following keywords: HIV, mortality, missed visits, and care continuum. Standardized inclusion criteria were applied in duplicate by two separate reviewers to identify primary epidemiologic studies published after 2000 which associated missed HIV clinic visits with all-cause mortality.

Results: We retrieved 4,153 studies in the original search. After deduplication 3,632 studies remained which were screened on the basis of title and abstract. There are 83 studies in the process of being reviewed in full-text and assessed for quality. Over short and long term follow up and in varied international locations, almost all of the currently included studies report a substantial and statistically significant association between missed visits and increased mortality. The results from studies retrieved in this review will be pooled by meta-analysis to provide a summary effect estimate.

Conclusions: This study will be an important step in evaluating the effect on mortality of missed visits as a measure of poor retention in HIV care. We will be able to provide a stronger conclusion than is currently in the literature by synthesizing the available data.

126 The Impact of Antiretroviral Medication Among Pregnant Others at Kasuku Health Centre Nyandarua County

Lydiah Ndegwa (presenting), Ann Mathenge, Joseph Njogu, Philomena Atsiaya

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Background: Kasuku Health Centre has been implementing a prevention of mother-to-child transmission of HIV (PMTCT) program since 2010. HIV positive expectant women were managed using PMTCT option B (Interrupted HAART) since it was considered more efficacious than option A. It was noted that clients would return to the MNCH clinic after two years pregnant, hence restarting them on ARVS. In 2014 the health facility adopted the National AIDS and STI Control Program (NASCOP) recommendation to implement option B+ as a strategy for elimination of mother-to-child transmission (eMTCT) and keeping mothers alive. The objectives are to safeguard children from HIV/AIDS by ensuring that future pregnancies are protected from transmission.

Methods: In January 2014, option B+ was introduced to all pregnant mothers who were not on HAART in the facility comprehensive care center and those newly diagnosed in the maternal and child health clinic in accordance with NASCOP 2014 guidelines. The clients are prepared to start HAART by receiving adherence counseling and relevant therapy information from a PMTCT-trained clinician and Mentor Mother. A support group for clients was established which meets monthly and in attendance is a multidisciplinary team in order to discuss any issues arising and challenges encountered.

Results: From January 2016 to December 2017, 23 mothers were enrolled into the EMTCT program. All 23 (100%) mothers were on HAART and all their infants were negative with DNA PCR test at six weeks and antibody test at 18 months negative.

Conclusions: EMTCT can be achieved in routine care conditions using option B+ with a multidisciplinary team effort to ensure its successful implementation.

129 Investing in a Healthier Tomorrow: PrEP as an Opportunity for Adolescent Engagement in HIV Prevention

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Background: Global organizations have called for increased quality in HIV and other health services for adolescents, due to their unique and unmet prevention needs. In South Africa, adolescents face sustained HIV risk. Pre-exposure prophylaxis (PrEP) offers a potential biomedical strategy to reduce transmission among this population. There is an urgent need to understand the social and community implications of PrEP for engaging South African adolescents in HIV prevention efforts.

Methods: We conducted a mixed-methods study in South Africa from 2015–2016. Adolescents (N=35) aged 16–17 and clinicians working with adolescents (N=25) were recruited in community and clinic settings. Adolescents completed a survey about overall perceptions of PrEP, and took part in focus groups and interviews. Clinicians also completed a survey and interviews exploring similar themes. Data were analyzed using SPSS and NVivo. University of Cape Town and Brown University provided ethical approvals.

Results: The majority of adolescents (90%) endorsed future PrEP use for themselves and partners. All clinicians (100%) endorsed future PrEP use for sexually-active adolescents. Two qualitative themes highlighted the social implications of PrEP usage among adolescents. First, adolescents and clinicians identified PrEP as a unique opportunity to engage youth as active, rather than passive, participants in HIV prevention efforts, and to foster agency around their sexual health decision-making. Second, clinicians viewed PrEP as a mechanism to shift life trajectories and as a tool to promote health and well-being in high-risk adolescent populations.

Conclusions: Findings highlight the need for researchers and clinicians to work with community-based providers and organizations to empower adolescents as key participants in their HIV-related and other healthcare needs, particularly in regards to access and delivery. Research must continue to examine the social implications of PrEP use among young people to effectively engage with them at all phases of the PrEP care continuum.

131 Analysis of International Conference on HIV Treatment and Prevention Adherence Published Works, Under the Optic of Communication on Health

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Background: We analyzed works from six editions of the conference, looking for the ones dealing with communication on health and adherence bias.

Methods: From the works analyzed between 2010 and 2015 available on the conference website, we found: 204 works which made direct use of communication on health in their studies; 7, 35% works were using technology, like SMS with notifications for the takes, and informative and supporting messages; 8, 33% were using websites like blogs, online chats “ask the specialist”, assistance network; 61% direct and patient-facing motivation models like meetings, seminars, classes; and 4, 9% intervention for the adhesion by information, advertising materials, radio, television, and videos.

Results: We could observe through this analysis that the communication practices of supervision and informing on HIV/AIDS, assistance, living with the disease, allows for the questions being successfully answered through these contacts. Also, and the most important regarding adherence, valuable information about posology, storing and interactions between treatments, improve treatment adherence, according to several initiatives used by the researchers. Therefore, all the evaluated works had some degree of success in their interventions, for adherence improvement, and for the general well-being of the patient.

Conclusions: Although all the adherence works have a limited snapshot capability, therefore, requiring continuous follow-up, the presented works shows that communication in health has a fundamental role in helping to learn. Information needs to be always present, to be deep-rooted. Another important factor is to preserve region-specific language characteristics. We cannot standardize procedures involving human relationships of any kind, but to make use of techniques to adapt to a given region, a certain public, gender, political and economic situation of the place. Good experiences will be successful in different realities only if the individual and collective limits are respected.

132 Fast-Tracking Cities' HIV Responses through Retention in Care Public Health Implementation Research Using a Model for Evidence-Informed Decision Making in Public Health

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Background: Evidence-informed decision-making models should involve factors such as, community health issues, local context, community and political preferences, and public health resources. In these two cases, we dissect how a model incorporating these four factors, can be used to identify city-wide implementation research projects focused on the retention in care (RiC) of people living with HIV (PLWHIV). In the United States, one third of people diagnosed with HIV have been engaged in care in the last five years but are now out-of-care. Half of these PLWHIV had one laboratory test but did not have a second laboratory test completed within a 12-month period as per clinical guidelines.

Methods: Clinicians, community, government officials and industry participated in RiC workshops held in Phoenix, AZ and Baton Rouge, LA in 2017 to identify the perceived feasibility and impact of potential city-wide implementation programs to enhance RiC. The model above was then used to identify the most acceptable intervention for all parties. Stakeholders in the city of Phoenix, through the ad-hoc fast-track city committee, have been supportive of an educational retention-in-care campaign primarily led by physicians, with a secondary social media component, designed to promote RiC. Additionally, officials of the city of Baton Rouge, have spearheaded support to adapt and expand on the CDC's Care and Prevention in the United States Demonstration Project (CAPUS) assessing the value of financial incentives to encourage PLWHIV requiring more regular monitoring to achieve treatment guideline recommendations.

Results: The Model for Evidence-Informed Decision making in Public Health was essential in the development of RiC initiatives. The output of these interventions will be published. Success for all partners will be evaluated through surveillance data.

Conclusions: Duplication of these multi-stakeholder public-private workshops and partnerships is recommended to ensure that RiC programs remain a focus for the success of HIV treatment as prevention.

133 Scale Validation to Assess Stigma and Healthcare-Seeking Practices of Men Who Have Sex with Men in Western Kenya: A Mixed Methods Approach

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Background: In sub-Saharan Africa, men who have sex with men (MSM) experience a substantial burden of HIV, in part due to stigma and discrimination creating barriers to engagement in prevention and care services. In order to design interventions to improve access and uptake of services for MSM, we first need culturally appropriate assessment tools of stigma and satisfaction with healthcare. We therefore examined the reliability and validity of measures of stigma and satisfaction with healthcare providers among MSM in western Kenya.

Methods: A mixed-methods design using a sequential triangulation approach was adopted, involving a survey of 89 MSM recruited through snowball sampling and 10 key informant interviews. Reliability and correlation analyses, exploratory factor analyses, T-tests, and ANOVAs were conducted to test the scale's psychometric properties and examine differences in mean scores by demographics. Thematic analysis with qualitative data was used to validate the meaning of scales and explore how stigma influences and relates to satisfaction with healthcare providers.

Results: Of 89 participants, 50%, identified as homosexual, 52% had college degree, 45% were above 25 years, and 72% had ever been married. Three sub-scales measuring social stigma, internalized stigma, and mistrust of healthcare providers showed good reliability (α=0.80, α=0.90, and α=0.90). Men who identified as homosexual reported higher mean scores of social stigma and distrust of healthcare providers ($p<0.001$), compared to heterosexual/bisexual. Qualitative data revealed MSM experiences with healthcare providers who were not knowledgeable or competent to handle their needs. Providers adopted cultural norms and endorsed social stigma directly to MSM, leading to discrimination.

Conclusions: This study provides preliminary evidence for the reliability and validity of measures of stigma and mistrust of healthcare providers among MSM in western Kenya. High scores and qualitative findings highlighted the need for interventions to reduce stigma and create a more inclusive health system.

134 The Supporting Adolescent Adherence in Vietnam (SAAV) Study: The Process of Developing an Individualized mHealth Intervention Package

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Background: The study goal is to improve understanding of an mHealth adherence intervention designed to help adolescents living with HIV (ALHIV) maintain high adherence to antiretroviral therapy (ART). We aimed to: (1) develop a personalized intervention package utilizing a wireless pill container (WPC) based on input from Vietnamese ALHIV, caregivers, and clinicians; and (2) assess intervention feasibility, acceptability, and efficacy via a randomized controlled trial (RCT). Here we present our experience developing the intervention package and assessing WPC acceptability.

Methods: The RCT is ongoing with 80 adolescents at the National Hospital for Pediatrics in Hanoi. To develop the intervention, we conducted six focus group discussions (FGDs) with adolescents ages 12–17 years, caregivers, and clinicians, exploring adherence challenges and strategies, and refining intervention options. To assess acceptability, RCT participants completed a device utilization survey with quantitative and qualitative questions after one month. We analyzed qualitative data by theme; and calculated proportions for quantitative responses.

Results: Based on consensus from FGD participants, the intervention package comprised: (1) choice of one or more reminders triggered by late dose-taking (text message and/or automated call to either child's or caregiver's phone; and/or WPC-based flash/alarm); and (2) monthly counseling informed by adherence data using a report with calendar view and pie chart, with or without a caregiver present. All 80 RCT participants completed the device utilization survey. Participants were positive about real-time adherence monitoring, and generally found the WPC convenient, although some patients reported removing multiple pills at one opening in order to take some later, and some had concerns about disclosure risk.

Conclusions: The individualized intervention package and WPC seem promising for use with ALHIV. Findings from the RCT will contribute evidence on mHealth approaches as adherence support tools for ALHIV, with relevance to other chronic diseases during transition from adolescent to adult care.

138 Depressive Symptoms and Adherence to ART Among Recently Incarcerated PLHIV: The Mediating Role of Drug Use

Lauren Hill (presenting)[1], Carol Golin[1], Nisha Gottfredson[1], Brian Pence[1], Bethany DiPrete[1], Jessica Carda-Auten[1], Jennifer Groves[2], Sonia Napravnik[1], David Wohl[4], Kevin Knight[3], Patrick Flynn[3]

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Background: Depression is a known risk factor for antiretroviral therapy (ART) non-adherence, but little is known about the mechanisms explaining this relationship. It may be particularly important to identify these mechanisms among incarcerated persons living with HIV (PLHIV) recently released from prison, as individuals during this critical period may experience both high levels of depression and difficulties with adherence.

Methods: 347 PLHIV recently released from prison in North Carolina and Texas participating in the imPACT trial (individuals motivated to Participate in Adherence, Care and Treatment) were included in analyses. We assessed mediation of the relationship between depressive symptoms at two weeks post-release and ART adherence at weeks 9–21 post-release by the hypothesized explanatory mechanisms of alcohol use, drug use, adherence self-efficacy, and adherence motivation (measured at weeks six and 14 post-release). Adherence was measured through unannounced monthly telephone pill counts. Indirect effects were estimated using structural equation models with maximum likelihood estimation and bootstrapped confidence intervals.

Results: On average, participants achieved 79.3% adherence over weeks 9–21 post-release. A total of 33% reported moderate or severe depressive symptoms. The indirect effect of depression on adherence through drug use was significant (β=-0.007; 95% CI: -0.019, -0.001); greater symptoms of depression were associated with greater drug use (β=0.161; 95% CI: 0.069, 0.280), which was in turn associated with lower adherence (β=-0.047; 95% CI: -0.090, -0.005). No other indirect effects were statistically significant. Lower adherence self-efficacy was associated with depressive symptoms (β=-0.127; 95% CI: -0.230, -0.031), but not with adherence.

Conclusions: PLHIV with greater symptoms of depression following release from prison were at risk of greater drug use and as result, lower adherence to ART. Given limited resources, screening for depression and targeting mental health services to depressed individuals with a history of substance use constitute important steps to promote adherence to ART after prison release.

140 Adolescent-Led Early Warning System and Stay in School Committee Innovations Support Adolescent Girls to Stay in School and to Be HIV-Free

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Background: The HIV epidemic disproportionately affects adolescent girls and young women (AGYW). Recent UNAIDS statistics indicate that in Uganda, 570 AGYW aged 15–24 are infected with HIV weekly and HIV prevalence is almost four times higher among AGYW than their male counterparts. Data indicates that adolescent dropouts in Uganda have some of the highest HIV rates. In Uganda, 65% of those who complete primary school go on to the first year of secondary school, while only 22% of these go on to the final year of secondary school.

Methods: The Strengthening School-Community Accountability for Girls Education (SAGE)-DREAMS program is a two-year U.S. President's Emergency Plan for AIDS Relief (PEPFAR)-funded project implemented by World Vision, Inc. and managed by John Snow Research and Training, Inc. The project seeks to reduce school dropout and HIV infection among 45,000 AGYW in secondary school. It is implemented in 151 secondary schools across 10 districts in Uganda with some of the highest levels of dropout and HIV infection. The project implements two adolescent-led, adult-supported innovations: (1) early warning system (EWS) and (2) stay in school committee (SISC). The project trained school and community stakeholders and established AGYW-led SISCs in schools. The SISC uses the EWS to track school attendance, behavior, and performance. The following results are exciting preliminary findings from the first few months of EWS implementation. A much higher evidence of impact will be shared in June.

15,014 AGYW have been reached by the program across ten districts	**768 at-risk AGYW** were identified and flagged for follow up by the SISC	**117 AGYW** were followed up through home visits	**23 AGYW** were returned to school

The project changes student attendance norms by promoting adolescent leadership and community action to reduce dropout. The Ministry of Education and Sports is engaging in dialogue to adopt these innovations in schools across Uganda.

Results: EWS strengthens school-community action to respond to causes of girl dropout which acts as a social vaccine against new HIV infection. AGYW identify their peers at risk of dropping out who are monitored through the EWS, and key stakeholders can act to keep them in school.

Conclusions: The EWS and SISC innovations address the global challenge of school dropout and adolescent girl vulnerability to HIV. SAGE-DREAMS is showing promising, rapid evidence of impact that is being scaled and may be applicable elsewhere.

142 Impact of Clinical Pharmacists on HIV Viral Load Suppression and Office Visit Show Rate in High Risk HIV-Infected Patients

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Background: The ultimate goal of HIV treatment is to achieve viral load suppression (VLS). Patients who frequently miss clinic visits are less likely to achieve VLS and have higher mortality. The purpose of this project was to examine the effects of a clinical pharmacist intervention on show rate and VLS in HIV positive patients.

Methods: Patients were identified through chart review between February 17 and October 31. Patients were included if they had a viral load (VL) greater than 1,000 copies/mL and missed a recent provider visit. A pharmacist phone visit was scheduled for patients who met criteria and adherence counseling and medication education was provided. Follow up with either the HIV provider or pharmacist was scheduled based on patient specific needs. Patients who could not be reached during the scheduled phone visit were referred to an HIV medical case manager. Comparison of VLS and show rates to HIV provider visits were analyzed using Chi Square tests. Other secondary objectives were summarized using descriptive statistics.

Results: Of the 773 charts reviewed, 111 patients met criteria for enrollment. Patients were mostly African American (88%) males (63%) with average age of 39. The thirty-seven (33%) patients reached via the initial pharmacist phone visit were significantly more likely to attend an ID provider appointment within 6 months post enrollment ($p<0.001$). Fifty-nine (53%) patients completed a pharmacist visit between enrollment and up to 6 months post enrollment. Of those who completed a pharmacist visit, 23 (39%) achieved HIV VLS within 6 months compared to 10 (19%) who did not ($p<0.001$).

Conclusions: This study highlights the role of clinical pharmacists in proactively identifying high risk patients who may benefit from pharmacy services. Patients who were reached by the pharmacist were significantly more likely to attend provider visits and achieve VLS.

144 Application of Real-Time Adherence Feedback During Communication to Promote Adherence to Antiretroviral Therapy: Patient and Provider Perspectives

Lauren Hill (presenting)[1], Carol Golin[1], Allison Pack[1], Jessica Carda-Auten[1], Deshira Wallace[1], Sruthi Cherkur[1], Claire Farel[1], Elias Rosen[1], Monica Gandhi[3], Heather Prince[1], Angela Kashuba[1]

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Background: Efforts to promote adherence to antiretroviral therapy (ART) through patient-provider communication are often hampered by subjective adherence recall. Emerging technologies for real-time adherence monitoring provide a potential solution to this issue. To realize this potential, we need to explore how objective real-time adherence feedback could best be applied during patient-provider communication.

Methods: In a formative study of the use of real-time adherence feedback based on longitudinal antiretroviral concentrations in hair quantified using IR MALDESI MSI (infra-red matrix-assisted laser desorption electrospray ionization for mass spectrometry), we conducted in-depth interviews with 30 HIV-positive patients and 29 providers at the University of North Carolina Infectious Diseases Clinic. We sought opinions about how to apply real-time feedback in patient-provider conversations about adherence, and inquired about anticipated positive and negative effects of the feedback on these conversations.

Results: Both patients and providers saw adherence feedback based on a pharmacologic measure as potentially motivating for both highly adherent and non-adherent patients. Many suggested that identifying patterns of non-adherence with the feedback could facilitate problem solving to promote future adherence. Some patients who perceived themselves to be highly adherent doubted the feedback would affect their adherence conversations with providers. Similarly, some providers questioned the benefit of real-time feedback for patients with consistently undetectable viral loads. While patients expressed few concerns, some providers worried that discussing real-time monitoring results could harm the patient-provider relationship by implying mistrust of patient-reported adherence and that anticipation of adherence monitoring could discourage attendance of follow-up visits.

Conclusions: Use of real-time adherence feedback should be tested in diverse patient groups (virally-suppressed and not, varying ART-experience) to determine the best application of this information for different patient needs. Guidance for patient-provider communication using real-time feedback should focus on both optimizing adherence and mitigating negative perceptions of adherence monitoring to preserve trust and engagement in care.

145 Use of Enhanced Adherence Counselling in Monitoring Viral Suppression Among Pediatrics: A Case Study of Kasuku Health Centre, Nyadarua County

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Background: Viral load testing remains the gold standard for monitoring patients on antiretroviral treatment (ART). The revised national guidelines of June 2014 recommend routine viral load testing for all patients on ART, to monitor response to ART and identify patients likely to be failing treatment. This is particularly significant to monitor the goal of achieving viral suppression for 90% of the patients on ART, among the key objectives of the UNAIDS 90-90-90 strategy. Our objectives are to improve the use of viral load monitoring among pediatric patients on ART.

Methods: Kasuku Health Center has 35 pediatric patients on ART. Those below 10 years are 15 those above 10 years are 20. The viral load (VL) monitoring is done through DBS. Blood samples are drawn from the patients. The blood samples are dried overnight. They are sent to KEMRI Nairobi via courier services the next day. The results of the viral load are sent back within 21 days via email of the person whose details appear on the sample referral form. Pediatrics with high VL, intensified adherence counseling is done and repeat VL done after three months.

Results: From January 2015 to June 2016 all 35 pediatrics have been done VL. Three (8.57%) had high detectable levels of copies i.e. >1000 copies /ml 32 (91.4%) had low detectable levels of copies i.e. <1000 copies /ml patients with high viral load had been diagnosed late.

Conclusions: Routine viral load testing is important in viral monitoring among pediatrics living with HIV. This is because viral load can detect treatment failure long before both clinical and immunological methods.

147 Defining HIV Viral Suppression: Comparing Single and Durable Outcome Measures

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Background: Defining one-year viral suppression (VS) with one viral load test (single) may overestimate VS prevalence, compared to utilizing all viral load tests in that year (durable). This analysis examines whether this overestimation varies by number of viral load tests conducted and compares the association between 2015 viral load frequency and two VS outcomes: single and durable.

Methods: Virginians who were diagnosed with HIV as of December 31, 2013 and had >1 viral load during both 2014 and 2015 were selected for analysis. Viral load frequency in 2015 was categorized as 1–2 tests or >2 tests. Two 2015 VS outcomes were analyzed: single (most recent viral load <200 copies/mL) and durable (all viral loads <200 copies/mL). The prevalence of single and durable VS by test frequency was calculated and binomial regression was utilized to estimate and compare the prevalence difference (PD) between test frequency and each VS outcome.

Results: The sample included 6,975 persons. Among those with 1–2 tests (n=4,633), 88% achieved single and 83% achieved durable VS (dif=5%). Among those with >2 tests (n=2,342), 92% achieved single while only 68% achieved durable VS (dif=24%). Compared to persons with 1–2 tests, persons with >2 tests had 4% higher prevalence of single VS (PD; 95% CI= 0.04; 0.03, 0.06), but 15% lower prevalence of durable VS (PD; 95% CI= –0.15; –0.17,–0.13).

Conclusions: The difference between single and durable VS varied by test frequency, and these findings suggest that as viral load test number increases, so does the difference between single VS and durable VS. Additionally, the direction of the relationship between test frequency and VS changed when using durable versus single VS. This suggests the importance of examining the robustness of study results using both VS definitions, especially if an exposure of interest (e.g. gender) is associated with test frequency.

148 Study of Determinants of Non-Adherence to Antiretroviral Treatment Among People Living with HIV with Unsuppressed Viral Load More Than One Year

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Background: Unsuppressed viral load associated with non-adherence of less than 95% to highly active antiretroviral therapy (HAART) increases the probability of drug resistance and treatment failures, resulting in disease progression, increased morbidity and mortality among people living with HIV (PLHIV). This study aims to identify the determinants of non-adherence with unsuppressed viral load for more than one year.

Methods: A single-centre, retrospective cross-sectional study was conducted amongst 290 PLHIV attending the drug adherence programme of Communicable Disease Centre, Singapore, between June 2014 to December 2017. Sociodemographic profile, self-declared non-adherence (200 copies of viral RNA/ml), and factors for non-adherence were obtained from online medical records. Chi-square tests and binary logistic regression models were used to identify factors associated with non-adherence. P-value <0.05 was considered as statistically significant.

Results: Mean age of subjects was 48.68 ± 12.7 years, 85.17% were males, mean duration of treatment was 5.6 ± 4.6 years, and 44.8% of participants reported non-adherence. Frequently cited reasons for non-adherence were psychological factors (50%), forgetfulness (40.7%) and financial difficulties (39.0%). Forgetfulness [odds ratio (OR): 8.07; 95% confidence interval (CI): 3.83–16.98], medication side effects [OR: 2.851; 95% CI: 1.31–6.20], loss to follow up [OR: 2.27; 95% CI: 1.202–4.288] and psychosocial factors [OR: 2.497; 95% CI: 1.279–4.872], were found to be significantly associated with non-adherence.

Conclusions: Adherence of HAART among PLHIV is imperative for better treatment outcomes. Qualitative analysis could be conducted to better comprehend the associations between the above identified determinants and non-adherence. Based on our results and the local situations, we suggest adherence improvement strategies which focus on equipping patients with the understanding of disease state and treatments; enhancing defaulters program with greater collaboration between members of the multidisciplinary team.

149 Tailored Motivational Interviewing in Adolescent HIV Care: Utilizing a Standard Patient Interaction Model to Assess Provider Competency

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Background: Motivational Interviewing (MI) is the only behavioral intervention to date shown to be effective to improve self-management for youth with HIV and show success across the care cascade. The goal of this longitudinal project is to test a multi-faceted Tailored Motivational Interviewing implementation intervention to scale up MI in multidisciplinary adolescent HIV care settings. This requires efficient fidelity measurement to assess care providers' competence using MI.

Methods: We utilized a trainer/coach rating scale for fidelity monitoring, feedback, and systematic coaching of MI skill. The 12-item MI Coach Rating Scale was developed in previous work. Preliminary studies showed that recording actual patient-provider interactions is not feasible. Thus, we have developed a standard patient interaction model of fidelity monitoring using external actors and coaches (role plays) and the rating scale. Providers completed monthly MI role plays during the baseline period (pre-MI training intervention). These audio-recordings were scored for level of MI competency by 2 trained coders with 10% of recordings co-coded to confirm interrater reliability.

Results: There were 151 baseline provider competency scores obtained across 11 clinics. Providers were 38.7% medical providers, 17.3% psychologists or social workers, and 44% other (e.g., health educators). At baseline (before MI training), care providers demonstrated a mean competency score of 1.86 (SD=.45, range=1.08–3.42, Beginner) on a 4-point scale. Providers' baseline competency corresponded to 65.6% Beginner, 27.8% Novice, 6.0% Intermediate, and 0.7% Advanced. There were significant means differences in mean competency by provider type ($F(2,147)=6.79, p=.002$). Psychologists and social workers showed greater competence (M=2.13,SD=.49) than medical providers (M=1.86,SD=.41) and other staff (M=1.76,SD=.43). Medical providers did not significantly differ from other staff.

Conclusions: This model of fidelity monitoring offers a more efficient and less costly alternative to traditional approaches. We hypothesize that competency levels will improve post-MI implementation, during which providers receive structured training and practice in MI.

150 Reaching Men for HIV Testing (HTS) Where They Are: The Experience of the HIV Workplace Initiative in Uganda

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Background: Young men under the age of 35 years are often missed in HIV prevention programs. Their care along the UNAIDS 95-95-95 fast track cascade lags behind those for females. Reaching men where they are with HIV testing services (HTS) and linking them to treatment are crucial steps in controlling the HIV epidemic by ensuring no man is left behind along the continuum of care.

Methods: The World Vision-led USAID-funded HIV/Health Initiatives in Workplaces Activity (HIWA) program in Uganda aims to increase availability of, access to, and utilization of quality comprehensive HIV/AIDS services among members of the Uganda Police Force (UPF), Private Security Guards (PSG), Uganda Wildlife Authority (UWA), and Uganda Hotel Owners Association (UHOA). HIWA implemented a Differentiated Service Delivery (DSD) at workplaces to reach men deployed at hard-to-reach areas/hot spots, conducted index case testing of family and sexual contacts with screening at antenatal care, voluntary medical male circumcision services (VMMC), STI and TB settings. Targeted integrated outreaches to the distant outposts, aligning services to the work schedules, use of mobile health; and peer-to-peer mobilization were critical in reaching men for HIV services.

Results: Multiple entry points were utilized to reach men for HIV testing, including workplaces, antenatal clinics, VMMC, and index case testing. Of the 93,277 reached with HTS, 47,306 (51%) were men. The HIV positivity yield was 1.4% for males and 2.6% for females. Of the 16,164 males offered VMMC services, 95% (15,319) were tested for HIV and received their results. HIV positivity yield ranged between 0.5% – 6%. Similarly, 4591 (46%) male partners of 10,018 pregnant women who attended ANC1 were tested for HIV and received their results in 2017.

Conclusions: Reaching men with HTS in Uganda is critical in achieving HIV epidemic control. Workplaces, antenatal clinics and VMMC programs are effective entry points to scale-up HIV services for men.

151 Data for Care 1.0: Ready for a System Update

Aadia Rana[1], **Harriette Pickens (presenting)**[2], David Batey[1], Tommy Williams[2], Shyla Campbell[1], Dominique Hector[2], Kelly Ross-Davis[2], Kathy Gaddis[2], Jeremiah Rastegar[1], Maira Sohail[3], Michael Mugavero[1]

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Background: Data to Care initiatives utilize HIV surveillance with clinical data to support re-engagement of people living with HIV (PLWH) who are lost to follow-up (LTFU). As PLWH with a history of missed clinical visits are at increased risk for LTFU, high viral loads, and all-cause mortality, we describe results from an initial Data for Care intervention integrated into clinical care targeting recent missed visits at a large Ryan White-funded HIV clinic in the Deep South.

Methods: From May 2017–February 2018, four linkage and retention coordinators (LRCs) at the UAB 1917 Clinic identified 1,028 unique patients (~31% of all patients) who missed their scheduled HIV primary care appointment. LRCs attempted contact with those patients within 48 hours of the missed appointment. Of these, 52.7% were male, 72.9% were African-American with a median age of 42. A total of 517 patients (50.3%) were successfully contacted and rescheduled. Of the 517, 40 (7.7%) needed additional rescheduling. Poor contact information was the primary reason for not being able to reschedule patients. Patient reported reasons for missed visits in order of decreasing frequency included: forgetting the appointment, not receiving a reminder call, lack of transportation, and work/school conflict.

Results: Despite standard automated appointment reminders, a significant portion of patients experienced missed visits with primarily structural barriers reported by patients. Multiple attempts were often required and connections were limited by poor contact information. However, >50% of patients were successfully rescheduled suggesting an opportunity for LRCs to intervene in emerging patterns of missed visits.

Conclusions: High numbers of missed visits, unreliable contact information, and the patient reported barriers indicate the need for a systemic, proactive, and individualized approach to ensure consistent visit attendance. Data for Care 2.0 will include pre-visit reminder calls with enhanced-personal contact utilizing the front-desk staff, LRCS, and clinic social workers to reduce the frequency of missed visits.

152 e2My Health - Low Health Literacy Patient Portal, a Ryan White Bergen/Passaic Special Project of National Significance Initiative

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Background: e2MyHealth is an innovative, mobile-responsive, web-based low-health literacy patient portal/personal health record for New Jersey's Bergen-Passaic Transitional Grant Area network designed to improve care engagement, retention, visits, medication adherence and viral load suppression for People Living with HIV AIDS (PLWHA). e2MyHealth is developed by a consortium of providers, consumers, industry representatives from Health Resources and Services Administration/Special Projects of National Significance (HRSA/SPNS), leveraging research, design, and outcomes of Columbia University's, New York Presbyterian Hospital and SelectHealth's MyHealthProfile that won New York City's patient portal design challenge. e2MyHealth uses advanced tethered, real-time health information exchange to present data from Electronic Comprehensive Outcomes Measurement Program for Accountability and Success (eCOMPAS). A total of 18 funded Part A providers are participating and e2MyHealth is available to 3,000+ consumers.

Methods: Stakeholder engagements were conducted to demonstrate MyHealthProfile findings. Stakeholders were comprised of consumers and providers. e2MyHealth was developed and pilot launched in August 2017 to consumers of the TGA. Features include: (1) alert notifications to consumers of next medical appointments (date entered by Providers in eCOMPAS) are available to improve medical visits and retention, (2) ability to view medications prescribed to them was developed to improve medication adherence, (3) ability to view lab results and other medical data, when released by the provider (from eCOMPAS), to help retention, and (4) e2MyHealth is connected to federally-supported resource MEDLINE PLUS®, designed for low-health literacy to help education. A training video was developed for consumers. Providers/case managers were trained to help consumers with login registration.

Results: As of December 31st, 2017, a total of 60 successful consumers have registered and e2MyHealth has been accessed by registered consumers 26 times in this pilot phase.

Conclusions: e2MyHealth is critical for PLWHA to gain access to medical information, viral load data, medications and appointments to improve adherence leading to better individual health.

154 South Africans Living with HIV who Delay or Discontinue Treatment: A Qualitative Study to Understand the Mechanisms of Action of The Treatment Ambassador Program (TAP)

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Background: Half of people living with HIV (PLWH) in South Africa are not on antiretroviral treatment (ART). We piloted The Treatment Ambassador Program (TAP), a randomized eight-session behavioral intervention delivered by PLWH trained in Motivational Interviewing (MI), providing content, support, and navigation, targeting people who delayed or discontinued ART. TAP was found to be acceptable and feasible, and increased ART initiation within three months among those in the intervention arm. Here, we explore TAP's potential active ingredients and mechanisms of action using qualitative data, from the perspective of participants.

Methods: Adult PLWH in Gugulethu Township in South Africa (N=86) not taking ART participated in the pilot randomized controlled trial of TAP. We purposively sampled a proportion (N=30; 100% Black African; 96% females) for maximum variation on HIV indices for qualitative in-depth interviews. Interview transcripts were analyzed using systematic content analysis.

Results: Participants' reports of the intervention's active ingredients included: receiving support from an "ideal" peer promoting self-reflection; support of autonomy while promoting disclosure; assistance with navigating a challenging clinical environment; and unpacking persistent barriers including fear of judgment, feeling "too healthy" to start treatment, and concomitant alcohol use. The level of support provided by the Treatment Ambassadors was viewed as largely missing from participants' daily lives. Among those who initiated ART, intrinsic motivation, disclosing to a trusted friend or family-member, and an ability to overcome barriers appeared to be essential mechanisms of action.

Conclusions: The perspectives of South Africans living with HIV who face challenges initiating or staying on ART are critical to identifying effective strategies to overcome barriers to ART uptake and may inform intervention development for this vulnerable population. The intervention's flexible and individualized approach enabled the Treatment Ambassadors to tailor the approach for each participant, addressing the variability of barriers to ART.

156 The Treatment Ambassador Program: A Pilot Randomized Controlled Trial for People Living with HIV in South Africa Who Delay or Discontinue Treatment

Ingrid T. Katz (presenting) [1], Laura M. Bogart[2], Ingrid Courtney[3], Lungiswa Tsolekile[4], Sonja Steck[1], Regina Pande[3], Ingrid V. Bassett[5], Marya V. Gwadz[6], Vincent S. Staggs[7], Garrett M. Fitzmaurice[1], David R. Bangsberg[8], Kathy Goggin[7], Catherine Orrell[3]

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Background: We piloted a multi-component socio-behavioral intervention in South Africa designed to address barriers to ART initiation for people living with HIV (PLWH) who delay or discontinue treatment.

Methods: Participants were treatment-eligible adults who delayed starting ART (≥3 months) or had discontinued treatment for >1 year. The 8-week intervention was delivered by "Treatment Ambassadors" – PLWH who underwent intensive training in Motivational Interviewing (MI), peer support and navigation. Impact of the intervention on ART initiation within three months of enrollment was assessed through the National Health Laboratory Service. Fidelity of MI-sessions was assessed using a standard scale, rating use of each strategy from 1 (Never/Poor) to 7 (Always/Excellent). Fidelity to key content delivery was measured using a checklist, rated as "Yes" (1), "No" (0), "Partially" (0.5), or "N/A" (excluded). Scores were averaged to yield a single fidelity or content score for each session.

Results: We screened 133 potential participants, enrolled 107, withdrew 21 after confirming non-eligibility, and analyzed data on 86 PLWH (43 randomized to intervention and control arms) in Gugulethu Township. Rates of ART initiation by three months in the intervention and control arms were 12% (5/43) and 2% (1/43), respectively; relative risk (RR) of ART initiation, RR=5.0 (95% CI 0.6–41.0). Of 43 intervention participants, 39 (91%) attended all eight sessions. Fidelity to MI strategies (measured over 71 sessions) was good with 46% averaging a score of >4 indicating good/frequent use of MI strategies, and the median (IQR) score for content (assessed over 59 sessions) was 0.90 (0.80, 0.95).

Conclusions: The Treatment Ambassador Program is a highly acceptable and feasible intervention in a vulnerable, hard-to-reach population in South Africa. Early evidence suggests that there is potential to improve ART initiation even among PLWH who face the greatest challenges in starting and continuing ART.

157 Impact of HIV-Related Stigma on Antiretroviral Adherence in Myanmar

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Background: HIV-related stigma permeates the developing world and can impact HIV management negatively. The degree of HIV related stigma and its impact on antiretroviral therapy (ART) adherence have not been evaluated in Myanmar.

Methods: People living with HIV aged 18 years and older were recruited across four cities in Myanmar from May to October 2016. A cross-sectional study using questionnaires was then conducted, which included demographic information (age, gender, education level, range of last CD4 count, and mode of transmission); There were 10 items from the enacted stigma scale and nine items from the internalized stigma scale of the India HIV-Related Stigma Scale; and self-reported adherence. Logistic regression analysis was performed to examine associations between HIV-related stigma and ART non-adherence. Significance was defined as p-value <0.05.

Results: Among the 1,022 participants, the mean age was 38.6 years, 55% were females, 78.2% of participants had grade school level of education, heterosexual intercourse was the most commonly reported mode of transmission (55%), and median CD4 count range was 350–500 cells/mm^3. Mean enacted stigma score and internalized stigma score were 1.36±2.16 and 7.15±5.78 respectively. Total enacted stigma score (OR 1.15; 95% CI 1.08–1.23) and internalized stigma score (OR 1.04; 95% CI 1.01–1.07) were both significantly associated with ART non-adherence. The most frequently reported enacted stigma was people looking at the participant differently because he/she has HIV (29.4%), and the most frequently reported internalized stigma was feeling that the participant's HIV diagnosis brought shame to the family (59.8%).

Conclusions: Among people living with HIV in Myanmar, both enacted stigma and internalized stigma were significantly associated with ART non-adherence. Others looking at the participants differently because of their HIV diagnosis and feeling that they brought shame to their families due to their HIV status were the most frequently reported enacted and internalized stigma respectively.

159 Results of an HIV Testing Strategy in Primary Service Care in Uruguay

Djalma Oper (presenting)[1], Analice Berón[2], Maria Eugenia Robledo[2], Alicia Guerra[2], Verónica Sánchez[2], Mariella Bazzano[2], Adriana Flangini[2], Leonardo Salvador[2]

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Background: Prior to 2016, in Uruguay, the prevalence of HIV in general population aged 15 to 49 was 0.6%. Approximately 12,000 people were living with HIV. Although rapid tests have been available in primary care since 2002, the actual access is scanty, and used almost exclusively during pregnancy. Our objective is to contribute to reduce the gap to reach the first 90 of the goals 90-90-90 of WHO and UNAIDS, through the implementation of testing offer in the first level of care, in the health service of the Municipality of Montevideo and, in Community Testing Days.

Methods: A cross-sectional study was carried out of the population that underwent the HIV diagnostic test in a period of 12 months.

Results: The implementation of the project was accompanied by a communication campaign. In the period, there were 256,400 consultations in the health service. There were 7,042 tests performed, 2,728 in community days and 4,314 in the polyclinics. The test consumption rate was 2.7% (7.042/256.400). The analysis of the data included 6,692 tests, of which 350 were deleted because of repeated records or no complete data. Of 6,692 tests performed, 3,449 were female, 2,683 were male, 17 were transgender and 543 no data. The median age and interquartile range (IQR) was 28 years (22–39) (Table 1). The positive rate was 1.1% (74/6.692), 0.6% (21/3.711) in women, and 1.7% (51/2.913) in men, this difference being statistically significant. The variables associated with a positive HIV result were: the male biological sex and the category men having sex with men.

Conclusions: The implementation of a proactive testing strategy in health services of primary care added to community testing days was a successful diagnostic strategy, reaching a positivity higher rate than the estimated prevalence in the Uruguayan population. The highest prevalence of positivity was observed among men and MSM, characteristics of the epidemic in Uruguay.

Table 1. Characteristics of the Studied Population

Age	**28 ±14.33**
Biological Sex (N=6559)	
Female	3691(56%)
Male	2868 (44%)
Gender (N=6149)	
Women	3449 (56%)
Men	2683 (43.6%)
Transgender	17 (0.27%)
Educational Level (N=5701)	
School	1179 (20.6%)
High School	3130 (55%)
Terciary	1392 (24.4%)
Sexual Practices (N=5890)	
Heterosexual	5135 (84.6%)
Homosexual	734 (12%)
Bisexual	219 (3.4%)
Sexual Practices in Men (N=2648)	
Heterosexual	2042 (77%)
Homosexual	492 (18.6%)
Bisexual	114 (4.3%)

Table 2. Factors Associated with a Positive Test Result

	Positive	Negative	p value
Biological Sex			
Men	51	2817	0, 000
Women	21	3670	
Maximum Educational Level			
Incomplete High School	40	3570	0,75
Complete High School	30	2895	
Age			
≤ 34 years	44	4435	0,21
> 34 years	29	2159	
MSM			
Yes	17	473	0,0002
No	23	2016	
Testing Place			
Polyclinics	53	4261	0.066
Community Days	21	2707	

References:
1 Boletín epidemiológico: Día Mundial de Lucha contra el Sida, Uruguay 2017. Disponible en: http://www.msp.gub.uy/sites/default/files/archivos_adjuntos/DIA_MUNDIAL_VIH2017_0.pdf
2 Datos de Unidad Centralizadora de Datos de la Intendencia de Montevideo.

161 Sustaining Adherence and Retention in HIV Care Among Unstable Patients: Experience of Differential Care Model at the Community Level in Zambezia Province, Mozambique

Gloria Ekpo (presenting)[1], Adolfo Cambule[1], Melanie Lopez[2], Veronique Kollhoff[1], Christine Latif[1]

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Background: Strengthening Communities through Integrated Programming (SCIP) project is a World Vision led-USAID funded project aimed at increasing access to, and utilization of, high quality, high impact, and evidence-based community HIV services; and generating demand for services through improved community index case management. Adherence, retention in HIV treatment with viral suppression is the ultimate goal in achieving UNAIDS 95-95-95 fast track targets.

Methods: SCIP project is implemented in 12 districts in the Zambezia province of Mozambique in collaboration with civil society and clinical partners. Enhancing community capacity to support retention and adherence is the intended outcome of the project. Based on pre-determined criteria and through intensive community index case testing and defaulter tracing of those lost to follow up by community volunteers, HIV positive patients were triaged to receive interventions based on whether they were unstable or stable patients. Stable patients received monthly household visits, patient literacy, links to support groups and saving schemes. Unstable patients in addition received more intensive household visits, community awareness and mobilization, SMS reminders, psychosocial support and individual case management.

Results: Results in 2017 showed 21,708 patients defaulted in care; 14,733 (68%) were traced and found, and 12,651 (86%) returned to care. A total of 1,967 new HIV positive patients were identified through community index case testing and 1,864 (95%) were linked to care. A total of 14,515 HIV positive patients received adherence support and 91% of these were still retained in care after 12 months. A total of 3,564 PLHIV were enrolled in community adherence support groups, 2,145 in mothers' support groups and 6,768 members were in 339 saving groups in the project.

Conclusions: Intensive community based index case testing and active defaulter tracing with functional community empowerment strategies are effective for long-term adherence and retention in care for PLHIV and should be mainstreamed in HIV programming.

163 Achieving the First 90: High HIV Positivity Yield for Index Case Testing at Hot Spots in Zambezia Province, Mozambique

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Background: The Strengthening Communities through Integrated Programming (SCIP) project is a World Vision led–USAID funded project aimed at increasing access to, and utilization of, high quality, high impact, and evidence-based community HIV services; strengthening referrals and generating demand for services through improved community index case management. Increased access to community-based HIV services including HIV testing was an outcome to achieve UNAIDS 95-95-95 fast track targets in the project.

Methods: The SCIP project is implemented in 12 districts in Zambezia province of Mozambique, in collaboration with civil society and clinical partners from 2016 through 2019. An intensive community index case testing for family members and sexual partners of PLHIV was conducted through mobile yellow bus outreaches and static approaches to reach key populations at hot spots including: truck drivers, females sex workers, miners and other mobile populations. Patients testing positive were linked to HIV treatment and supported to be adherent and retained in care over long-term.

Results: In 2017, a total of 15,066 people (7344 M; 7722 F) were tested for HIV and received their test results with average of 10.4% HIV positive yield. Children under 14 years of age accounted for 69% of the cases with 2.75% HIV positive yield, while adults had positive yield of 27.2%. HIV positive yield through mobile yellow bus outreach at hard-to-reach areas ranged between 4% and 23%, with average HIV positive yield among key population at 27%. The highest yield was among sex workers (45%–69%); truck drivers (21%–31%) and miners (18%–34%) assessed in the project. All patients with positive HIV results were linked to care.

Conclusions: Index case testing of key populations at hard-to-reach areas and hot spots through mobile and static outreaches is an effective strategy for high HIV positive yield and should be the standard approach in HIV testing to achieve the UNAIDS 95-95-95 fast track targets.

165 "Rapid" in the "Real World": Implementing HIV "Rapid Entry" in a Non-Academic Infectious Disease (ID) Practice

Jan Stockton (presenting)[1], John Cafardi[1], Robert Kallmeyer[2], Thomas Lamarre[1], Douglas Haas[1], Patricia Young[1],

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Background: Successful achievement of 90-90-90 HIV care continuum goals is incumbent upon increasing diagnosis, linkage to care, and treatment initiation. New efforts to remove barriers to care include immediate linkage and access to antiretroviral (ARV) therapy. Outcome data has been reported from projects implemented in academic care settings where a wide range of Ryan White Care Act (RWCA) supported services are available onsite. The purpose of this project was to evaluate feasibility of Rapid Entry (RE) in a 4-physician non-academic ID practice.

Methods: Goals of the Rapid Entry project are initial visit within three business days of diagnosis and ARV initiation at entry. Outcomes measured include time to initial visit, to ARV start, and to virologic suppression. Retention in care is assessed at six and 12 months post-entry. Comparison is made to standard of care (SOC) patients seen during 24 months prior to project implementation.

Results: There were 32 patients with new HIV diagnosis who initiated care during project period. Time to first visit averaged 11 days (1–48) with 12 patients (37%) seen within three business days (SOC 7–190 days, mean 35). A total of 17 of these 32 patients (53%) started ARV at the initial visit, 20 (63%) by day seven. Twenty patients (63%) achieved HIV RNA.

Conclusions: Preliminary results of this pilot project are comparable to reports from larger studies: reducing time to first visit and ARV initiation shortens time to virologic suppression. Implementing RE in non-academic care settings is challenging but feasible, requiring high levels of staff commitment, flexibility, and communication. Strategies to identify and reduce system barriers to RE, including shortening time to referral from outside testing sites, are currently in process.

166 The Impact of User Fees on HIV Care in a PEPFAR Program

Aima Ahonkhai (presenting)[1], Susan Regan[2], Ifeoma Idigbe[3], Olayemi Adeniyi[3], Muktar Aliyu[1], Prosper Okonkwo[4], Elena Losina[2], Adesola Musa[3], Oliver Ezechi,[3] Kenneth Freedberg[2]

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Background: As global funding for HIV services continues to decrease, programs have addressed funding gaps by instituting patient user fees. We examined associations between patient fees and care utilization in a Nigerian cohort.

Methods: We conducted a retrospective analysis of patients enrolled in HIV care before (October 2012–September 2013) and after (October 2014–September 2015) initiation of patient fees at the Nigerian Institute of Medical Research, Lagos, Nigeria. We assessed patient characteristics, care interruption (three months without clinic contact with later return to care), and loss to follow-up (LTFU, three months without clinical contact without return to care) in the year after enrollment. We used GEE and logistic regression models to determine the odds of care interruption and LTFU in the post- vs. pre-user fee era.

Results: We found a decline in patient enrollment from pre- to post-fee initiation (n=1,970 vs. 787). There was no difference in the proportion of female clients (64% vs 63%, p=0.461), average age (36y vs. 37y, p=0.151), or median baseline CD4 count (220/ul vs. 221/uL, p=0.24) in the pre- and post-fee cohorts. There was an increase in patients with secondary/tertiary education (74% to 80%, p<0.001), shorter time to antiretroviral therapy (ART) initiation (45 days to 35 days, p<0.001), and increase in patients with any ART pick-up (72% to 81%, p<0.001) from pre- to post-fee initiation. Patients in the post-fee period had a 23% decreased risk of care interruption (vs. pre-fee period) [18% vs 12%, OR 0.77, 95%CI:0.66-0.89]. There was no significant difference in the risk of LTFU in the pre- and post-fee cohorts (33% vs. 31%, p<0.001, OR 0.99, 95%CI:0.82–1.19).

Conclusions: Institution of patient fees for HIV care in Lagos, Nigeria may have selected for patients who were more adherent to clinic visits and ART, but these benefits may be outweighed by a marked decline in patient enrollment.

167 How Can Health Communication Most Effectively Explain Antiretroviral Medication (ART) and Motivate Adherence Among Young People?

Warren Hickson (presenting)

The Desmond Tutu HIV Foundation, Cape Town, South Africa

Background: This study explored factors contributing to the success of health communication strategies and supporting visual communication tool(s) designed to explain antiretroviral medication (ART) adherence and motivate young people who live with HIV to follow an adherence regime. The study drew from the social sciences, including psychology, health sciences and communication.

Methods: The empirical research consisted of a qualitative case study in Khayelitsha, a peri-urban township on the edge of Cape Town, South Africa. It focused on young people and health care professionals.

Results: Two key factors emerged: first, concerning how young people become motivated to learn about treatment and adhere to it; and second, concerning how information about treatment can best be communicated to them. In relation to the first of these, findings showed that young people were traumatized by an HIV diagnosis and could not process the treatment information and had no motivation to do so because the diagnosis resulted in a loss of hope for their lives.

Conclusions: Motivation was an outcome of re-connecting to a trusted significant other(s), who accepted and supported them. This affirmed their prior belonging identities that reconnected them to their present and future hopes. This renewed motivation to live was the basis for their motivation to learn about treatment and adhere to it. The second factor found that current ART communications were not effective. The use of metaphors, seen as a method of simplifying the complexity of ART messages was creating confusion. Printed information was also not effective; communication was more effective when it provided spaces for discussion. All young people who visited the clinics wanted to learn about ART. This substantive theory contributes knowledge relevant to how ART adherence is communicated to young people.

170 Pilot Study of Tolerability and Acceptability of an Ingestible Sensor System in HIV-Infected Individuals

Eric Daar[1], Marc Rosen[2], **Yan Wang (presenting)**[3], Lisa Siqueiros[1], Jie Shen[3], Naunihal Virdi[5], Mario Guerrero[1], Di Xiong[3], Kayla Campbell[4], Courtney Fletcher[4], Honghu Liu[3]

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Background: There is little data assessing acceptability of an ingestible sensor pill system for measuring adherence to antiretroviral (ARV) medications.

Methods: Fifteen HIV-infected participants were followed for 16 weeks while using digital medicines (Proteus Digital Health, Redwood City, CA) along with an added personalized short-message service (SMS) reminder system. Participants were prescribed ARV medications over-encapsulated with ingestible sensors that activated after ingestion and communicated to a wearable sensor patch that communicates the adherence data to a server via web-connected devices (e.g. phones, iPads). Participants received personalized SMS reminders when an expected ingestion was not detected. Participants were surveyed every four weeks about the system's acceptability.

Results: Mean age was 48 years. Most were male (87%), 47% were Black and 40% were Hispanic. Most (70%) completed at least 12 weeks (nine completed 16 weeks and one completed 12 weeks); three stopped at eight weeks due to dissatisfaction with system and/or over-encapsulation, and two stopped at four weeks due to unrelated reasons. The percentage of respondents reporting being "very" or "somewhat" satisfied with digital medicines at weeks 4, 8, 12 and 16 were 100, 85, 100 and 100%, respectively. The percentage finding system "very" or "somewhat" convenient at weeks 4, 8, 12 and 16 were 86, 85, 88 and 100%, respectively, with the remaining respondents stating it was "somewhat" inconvenient. The percentage of participants who stated they would recommend to a friend or possibly use outside of the study at weeks 4, 8, 12 and 16 were 100, 85, 100 and 100%, respectively.

Conclusions: Most (70%) participants remained in study for at least 12 weeks with reasonably high rates of satisfaction with the program. A randomized trial is planned to further assess acceptability, agreement of sensor-measured adherence with other measures, and impact on adherence compared to people not using the sensor system.

172 Can A Mobile App Paired with a Peer Improve Linkage and Retention and Care Among HIV-Positive Young Adults?

Mark Thompson (presenting)[1], Cheryl Smith[1], Denis Nash[2], Diane Addison[3], Ashish Atrejas[4], Jason Rogers[4], Margaret Baker[2], Joseph McGowan[5],

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Background: In the United States, incidence of HIV infections is highest among young people 18–24 years old. Once aware of their HIV status, young people are often challenged by seeking medical care. They utilize social media and digital technology to engage with each other and the world around them (including health information). Social media's ubiquitous use across socioeconomic status and racial demographics among young adults makes it an ideal health intervention tool.

Methods: New York State (NYS) Department of Health AIDS Institute teamed up with various stakeholders, community organizations, hospitals, academia, illustrators, writers, and young adults to develop the YGetIt? (YGI) Project. YGI utilizes a health management mobile application, "GET!," paired with Peer Engagement Educator Professionals (PEEPs) to facilitate the timely entry of HIV+ individuals age 18–34 into HIV care, encourage retention in care, and sustained viral load suppression among those in care. A health educator, peer navigator, and HIV care advocate were selected as PEEPs. Participants were recruited from communities disproportionately burdened by HIV/AIDS (i.e. MSM of color, transgender, people who inject drugs, marginally housed) in NYS. PEEPs interact with users in-person and through the mobile app via rapport building and informational messages sent weekly to facilitate conversation and utilization of care services.

Results: YGI was initially challenged by low recruitment, engagement and usage of GET! which lead us to make staffing adjustments. Adjustments revealed PEEPs are an essential component and PEEPs must be reflective of the target population, engaging, tech-savvy, and HIV knowledgeable for successful implementation. We also found initial standardization of PEEP messages improved user engagement.

Conclusions: Expand the integration of YGI into partner organizations, assess PEEP impact on the effectiveness of the intervention, and if effective encourage the adoption of YGI among other HIV providers nationally.

174 HIV and Gender Identity Stigma and ART Adherence in Argentine Transgender Women

Pablo Radusky (presenting)[1], Ines Aristegui[2], Virginia Zalazar[2], Claudia Frola[2], Omar Sued[2], Deborah Jones[3]

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Background: HIV-related stigma negatively affects adherence to antiretroviral treatment (ART) and the health of people living with HIV. In stigmatized populations like transgender women (TGW), HIV-related stigma can interact with pre-existing stigmas, such as gender identity stigma (GIS). This interaction maximizes its negative impact on adherence and health. This abstract presents preliminary data from an ongoing study, addressing the relationship between HIV and gender identity stigmas and ART adherence, comparing adherent vs. non-adherent TGW.

Methods: The HIV Stigma Scale (Berger et al., 2001) and a questionnaire to assess enacted and internalized GIS were administered to n=39 TGW. Of these, nine had failed in adherence to ART. These were matched with nine highly adherent participants, selected from the original sample adjusting for age, educational level and sex work to enable comparisons. Due to the sample size, non-parametric Mann-Whitney U test was used. Median age was 26 years (IQR=23–33) for both adherent and non-adherent TGW.

Results: Most participants reported current sex work (n=7 non-adherent; n=8 adherent). More than half had not completed secondary education (n=7 non-adherent; n=6 adherent). No significant differences in HIV-related stigma were found between groups. GIS was significantly higher in non-adherent TGW (U=14.5, p=.019). This difference was significant for internalized GIS (U=10, p=.006) and its three dimensions: avoidant behavior/self-exclusion (U=15.5, p=.024), emotions (U=10, p=.005) and fears/anticipation (U=16.5, p=.031); but not for enacted GIS.

Conclusions: Preliminary results suggest that GIS, especially internalized and anticipated, may play a more important role than HIV-related stigma in TGW's adherence to ART, highlighting the need to target these variables in interventions to promote adherence among TGW. HIV-related stigma may act as an additional layer to GIS, which promote adherence among TGW. HIV-related stigma may act as an additional layer to GIS, which appears to be a pre-existing, more negative and impactful stigma. Larger samples, such as that currently being recruited, are needed to test and expand this preliminary analysis.

175 Syndemics Predict Antiretroviral Therapy (ART) Adherence and Viral Load Longitudinally in US HIV Clinics

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Background: Syndemics (co-occurring psychosocial problems) interact synergistically and additively to exacerbate the risk for HIV acquisition and transmission risk behavior. Less is known about how syndemics influence antiretroviral (ART) adherence and viral suppression among people living with HIV/AIDS (PLWHA).

Methods: Data were obtained from 15,739 PLWHA receiving care through the Centers for AIDS Research Network of Integrated Clinical Systems (CNICS) at seven sites between July 2000 and April 2017. Syndemics (substance abuse, at-risk drinking, depression, anxiety) and ART adherence were collected through patient-reported outcome (PRO) assessments at visits at least 4–6 months apart. Using multilevel modeling (allowing for between-subjects and within-subjects analyses), we modeled: visit number and number of syndemics as predictors of ART adherence; and visit number, number of syndemics, and ART non-adherence as predictors of uncontrolled HIV.

Results: Each unit increase in a person's average number of reported syndemics increased the odds of being non-adherent by 2.04 (OR=2.04; 95%CI=1.94, 2.14). Within patients, when an additional syndemic was endorsed, it increased the odds of being non-adherent to ART by 1.43 (OR=1.43; 95%CI=1.38,1.48). Individuals with a greater average number of syndemics were also more likely to be virally uncontrolled: each additional syndemic in the person's average increased the odds of being virally uncontrolled by 1.41 (OR=1.41; 95%CI=1.34,1.49), and within patients, when an additional syndemic was endorsed, it increased the odds of being virally uncontrolled by 1.11 (OR=1.11; 95%CI=1.07,1.15). When adding ART adherence to the viral suppression model, adherence was not uniquely statistically significant.

Conclusions: Results indicate the importance of syndemics in adherence and, consequently, viral suppression. Integrating the identification of syndemics (via PROs) and treatment of syndemics with approaches to promoting ART adherence in HIV clinic settings carries potential for increasing ART adherence. This remains essential to attaining public health goals of 90% of those in care achieving viral suppression.

177 Tranquilo, Seguro, y Motivado: Participant Perceptions of a Peer Navigation Intervention for Substance-Involved HIV-Positive Key Populations in Tijuana, Mexico

Laramie Smith (presenting), Eileen Pitpitan

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Background: Previous findings showed that <4% of HIV-positive persons who injected drugs (PWID), females engaged in sex work (FSW), or who were men who have sex with men/transgender women (MSM/TW) were in care and on ART in Tijuana, Mexico. In response, a peer navigation (PN) intervention was piloted with out-of-care substance-involved individuals from these key populations.

Methods: Following the completion of the six-month PN intervention, participants were invited to complete an in-person 20-minute exit survey about their experiences. Participant perceptions are examined using descriptive statistics and emergent themes.

Results: Participants (N=40) were mostly men (60%; 28% women; 12% TW) and identified as MSM/TW (60%; PWID 35%, FSW 28%). Thirty-six participants completed the exit survey. In the year preceding the intervention, 13.9% said they were in very good/excellent health. Since joining the intervention, 50% said they were in very good/excellent health. Most participants enrolled in antiretroviral therapy (ART) (70%), found it somewhat (32.1%) or very easy (50.0%) to access their ART through the intervention's pillbox delivery service; reporting this service (88.9%) combined with brief ART adherence conversations (92.9%) were very helpful. Reasons for not taking ART reflected concerns surrounding their drug dependence or system-level delays (processing insurance requests, needing to complete TB treatment). On average participants endorsed not feeling judged by PNs (1=strongly disagree, 5=strongly agree; M=4.50, SD=0.826), and the intervention improved their HIV treatment knowledge, motivation, and self-efficacy (M=4.56–4.60, SD=0.773–0.878). Open-ended responses conveyed that the intervention helped to calm participants uncertainties (tranqillo), made them feel safe (seguro), and motivated (motivado) them to make changes in their HIV treatment.

Conclusions: Out-of-care substance-involved key populations in Tijuana, perceived themselves to be in better health following the PN intervention and viewed the intervention favorably. While not all participants wanted or were able to initiate ART, many found the pillbox delivery services particularly helpful.

178 Possible Risk Compensation, Attitudes and Beliefs Among Brazilian Individuals Potentially Eligible for PrEP

Larissa Villela (presenting)

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Background: Pre-exposure prophylaxis (PrEP) is indicated to prevent HIV infection among men who have sex with men (MSM) and transgender women (TGW) who present high risk.

Methods: This cross-sectional analysis describes possible risk compensation, attitudes and beliefs regarding the use of PrEP among 723 MSM and TGW evaluated in the PrEP Brasil pre-screening phase.

Results: Possible risk compensation was reported by 31.6 % individuals. In the multivariate model, factors that increased the likelihood of possible risk compensation were: self-referring as white vs. black (AOR 2.05 -IC 1.09,3.85), perceiving high likelihood of getting HIV in next 12 months (AOR 1.78 –IC 1.23, 2.56), being less afraid of HIV infection if using PrEP (AOR 1.93 –IC 1.19, 3.14), feeling liberate to have more partners if using PrEP (AOR 2.93 –IC 1.92, 4.49) and believing closest friends would use PrEP (AOR 2.51 –IC 1.1, 5.71).

Conclusions: Possible risk compensation was more common among those who presented high risk perception for HIV infection.

179 Behaviors Associated with Ongoing Transmission Risk Among Recently Diagnosed and Chronically Infected Persons Living with HIV in Washington, DC

Brittany Wilbourn (presenting)[1], Alan Greenberg[1], Seble Kassaye[3], David Parenti[4], Michael Serlin[5], Deborah Goldstein[6], David Hardy[6], Gebeyehu Teferi[7], Annick Hebou[8], Debra Benator[9], Princy Kumar[10], Ricardo Fernandez[11], Jose Bordon[12], Amanda Castel[1]

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Background: Despite the availability of effective prevention and treatment interventions that can reduce HIV transmission, there are approximately 350 new HIV diagnoses annually in Washington DC. We sought to understand which risk behaviors may be contributing to ongoing transmission risk among a cohort of persons who were either newly diagnosed or chronically infected and viremic.

Methods: In an HIV molecular sub-study of a prospective observational cohort, recently diagnosed (past 12 months) and chronically infected viremic (VL >1500 copies/ml) persons completed a cross-sectional behavioral survey. We compared participant behaviors in the prior year by recency of infection and self-reported sexual orientation.

Results: Among 154 participants, 39 (25%) were recently diagnosed. The 115 (75%) chronically infected viremic participants were diagnosed for a median of 15 years, and 89% were on ART with a median VL of 13,245 copies/ml. Compared to those recently diagnosed, chronically infected viremic participants were older (50 vs. 34 years), more likely to be heterosexual (60% vs. 23%) and Black (87% vs. 64%) (all $p<.05$). None of the participants reported prior PrEP use; however, 26% reported their sexual partners used PrEP. Among those recently diagnosed, MSM reported more sex partners (mean: 13 vs. 2), inconsistent condom use (79% vs. 37%), and a syphilis diagnosis in the prior year (41% vs. 0%) compared with heterosexuals (all $p<.05$). Among chronically infected viremic participants, MSM reported more sexual activity (71% vs. 46%), inconsistent condom use (65% vs. 28%), and a syphilis diagnosis in the prior year (19% vs. 0%) compared with heterosexuals (all $p<.05$).

Conclusions: Behaviors potentially contributing to HIV transmission were frequent among both recently diagnosed and chronically-infected viremic participants, and highest among MSM. These findings indicate the need for further engagement of high-risk persons in primary prevention services and reinforcement of secondary prevention and treatment among HIV-positive persons to reduce the risk of further transmission.

180 Stigma Reduction Efforts in Washington State

Lydia Guy Ortiz (presenting), Karen Robinson

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Background: Stigma is a barrier to HIV prevention and care. There are many examples of strategies designed to ameliorate manifestations of stigma. Yet, there are few examples of how entities can combine these distinct strategies into a comprehensive effort to reduce stigma. Washington State is one of the first states to develop and implement a comprehensive stigma reduction plan. This poster session provides an overview of the comprehensive stigma reduction plan and its current implementation status.

Methods: Reducing stigma is a foundational recommendation of the End AIDS WA 2020 initiative. Washington State created a Stigma Reduction Coordinator Position in April 2017 to support the initiative's stigma reduction recommendation. The Stigma Coordinator created a Stigma Reduction Plan through a variety of community engagement strategies, including crowd sourcing with participation from 32 of 39 counties within the state. The resulting plan works across the HIV Care and Prevention continuum and prioritizes strategies focused on people experiencing multiple levels of stigma.

Results: HIV Stigma and discrimination is complex. Researchers, organizations, communities, and individuals often have different definitions and priorities. Creating and implementing a comprehensive plan requires a recognition of that complexity as well as the interrelation of homophobia, transphobia, racism, and sexism. Maximizing limited resources requires acknowledging differing levels of expertise and an agreement to designate specific areas of focus for different entities.

Conclusions: Stigma is ubiquitous. Reducing HIV stigma requires the development of standalone strategies as well as imbedding stigma reduction in all of our work, Creating and maintaining programs that accomplish this task are integral in ending the HIV epidemic.

181 Anxiety Disorders Affecting Adherence to HIV Treatment in Low and Middle-Income Countries: A Systematic Review and Meta-Analysis

James Wykowski[1], Christopher Kemp[2], Jennifer Velloza[2], Deepa Rao[2], Paul Drain[2], **Frances Aunon (presenting)** [2]

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Background: Nearly 37 million people are living with HIV worldwide, but only 44% of them know their HIV-positive status, receive antiretroviral therapy (ART), and are virally suppressed. An incomplete understanding of global mental health issues has been a major barrier to providing comprehensive HIV testing, care and treatment. Despite anxiety disorders being the sixth leading cause of disability worldwide, most existing research regarding mental health and HIV in resource limited settings has focused on depression. Since anxiety may be associated with decreased adherence to ART, we sought to conduct a systematic review and meta-analysis of clinical studies that have measured the impact of anxiety disorders on ART adherence in low and middle-income countries.

Methods: We performed a systematic review and meta-analysis of studies assessing anxiety in HIV-infected adults receiving ART in low and middle-income countries. We searched PubMed, PsychINFO, CINAHL and EMBASE for relevant studies published before February 2018. We defined anxiety as reported numeric anxiety symptom scores from a screening questionnaire or a clinical diagnosis of an anxiety disorder and included studies that included data for anxiety and a measure of adherence.

Results: We identified at least ten studies that assessed anxiety and ART adherence among HIV-infected adults in low and middle-income countries. Final full text review for inclusion is still in progress as of the writing of this abstract. The final association estimates will be completed prior to the conference.

Conclusions: Developing a better understanding of anxiety disorders is a crucial part of elucidating the impact of mental health on adherence to HIV treatment in low and middle-income countries.

182 CrescentCare START Initiative: Successful High-Volume Linkage and Viral Suppression

Joseph Olsen (presenting), Katherine Conner

NO/AIDS Task Force – CrescentCare, New Orleans, LA, USA

Background: The purpose of the CrescentCare START Initiative (CCSI) program is to improve the long-term health outcomes of clients who test positive for HIV, linking newly diagnosed clients to care and first 30-day (directly observed) ART prescription within 72 hours. We saw 106 newly diagnosed clients in 2017 and those included referrals from our internal testing programs; routine screening-based and community-based, as well as external referrals from hospitals.

Methods: Internally our agency provides 12,000+ HIV tests a year at five of our clinic locations and 12 venues. We also receive referrals from local hospitals. We analyzed data from the first year of the CCSI program looking at only newly diagnosed clients using significance tests (F tests and T tests) to establish that regardless of where clients originally test positive; all are linked-to-care and virally suppressed equitably, using baseline viral load as a point of reference.

Results: We failed to reject the null on all significance tests. With a P-value of .63 we retained the null and found no significant difference in baseline viral load between internal (N=54) and referred (N=45) clients. With a P-value of .10 we were able to retain the null and say linkage time for clients testing positive in routine screening (N=21) and clients testing positive in community settings (N=40) was not statistically significant. Finally, with a P-value of .64 we retained the null and there was no significant difference in days to viral suppression based on if clients came from an internal (N=59) or external (N=41) testing program. We currently operate at a 97% linkage to care rate (N=106) and of clients currently retained in agency care (N=1,714); 91% are virally suppressed.

Conclusions: The CrescentCare START Initiative successfully delivers equitable linkage-to-care, treatment, and viral suppression to all clients from all sites and referral sources.

183 PrEPLine: A Cost-Effective Tool Used to Link YBMSM to PrEP Care

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Background: HIV vulnerability remains high among young, black men who have sex with men (YBMSM) on the south side of Chicago. Pre-Exposure Prophylaxis (PrEP) is a key factor in decreasing rates of HIV acquisition. PrEPLine, a warm line that serves as a liaison between individuals and PrEP providers, seeks to provide linkage to care services over the phone to PrEP-seeking YBMSM.

Methods: The ability to access, attend and initiate PrEP care is traditionally mitigated by a number of external life factors. These are addressed during the initial encounter with PrEPLine. PrEPLine follows the caller throughout the linkage process to assist in rescheduling appointments, identify and address barriers for missed appointments, and identify the outcome of the linkage.

Results: Out of 478 individuals who engaged with PrEPLine, 65% showed interest in scheduling an appointment, 49% scheduled a PrEP appointment, and 32% successfully attended their appointment and initiated PrEP. Participants who identified as gay/ same gender loving or bisexual were more likely to initiate PrEP than their heterosexual counterparts (aOR=12.18 and 6.91, 95% CI= (2.65– 56.04) and (1.39– 34.46), respectively). With regard to neighborhood areas, participants living in the south, west, and outside of Chicago were less like to initiate PrEP than participants living in the north side of Chicago (aOR=0.03, 0.14, and 0.04, 95% CI= (0.00– 0.25), (0.03– 0.72), and (0.01– 0.37), respectively). PrEPLine is also cost-effective, with an annual cost of $3,990, excluding indirect costs, and 162 hours of staff and management effort per year.

Conclusions: Data suggests that linkage to PrEP has similar barriers as those found in HIV linkage to care, but by using cost-effective techniques to pinpoint where additional support is needed, we can identify and evaluate opportunities to increase outcomes that successfully link YBMSM to PrEP care.

184 Psychiatric Symptoms Affect Condom Self-Efficacy in a Brazilian Psychiatric Population

Veronica Pinho (presenting)[1], Milton Wainberg[2], Karen McKinnon[2], Francine Cournos[2], Andrea Norcini Pala[2], Maria Cecilia Zea[1], Huynh Nhu Le[1], Paulo Mattos[3], Diana Pinto[4], Claudio Mann[3]

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Background: People with severe mental illness (SMI) (e.g., schizophrenia) are disproportionally affected by HIV, with infection rates ranging from 1.9% to 23.8% globally. Although studies have shown a link between psychiatric symptoms and sexual risk behavior, few have examined the role of psychiatric symptoms on condom self-efficacy (CSE). CSE has been shown to be predictive of sexual risk behavior and holds promise as a clinical tool to focus intervention efforts.

Methods: Brazilian psychiatric outpatients with SMI (N=412) were recruited from eight public psychiatric clinics in Rio de Janeiro, Brazil between June 2007 and March 2012 for an HIV intervention study (NIMH; R01 MH65163; Wainberg). We conducted an analysis of covariance examining the effect of symptom severity on CSE across four symptom clusters (affect, positive, negative, and activation symptoms) controlling for gender, age, race, socioeconomic status, marital status, education, and previous sexual risk behaviors.

Results: Those who experienced greater activation symptom severity were likely to have better CSE (F [1,402] =4.40, p=0.0365). Conversely, persons with more severe negative symptoms were more likely to have worse CSE (F [1,402] =10.01, p=0.0017).

Conclusions: SMI outpatient treatment settings provide an opportunity to address the psychiatric phenomena that may be contributing to HIV risk behaviors and to engage patients in focused HIV prevention strategies. Our findings suggest that people living with SMI who exhibit negative symptoms (e.g., blunted affect, emotional withdrawal) are less likely to perceive themselves as capable of using condoms, condom negotiation and/or condom acquisition. Those with severe activation symptoms (e.g., elated mood) have better estimates of their capabilities but nonetheless may perceive themselves as invulnerable to HIV and thereby place less importance on CSE. Both findings have implications for HIV prevention interventions, and future research should examine how associations between psychiatric symptoms and CSE affect risk-taking over time.

186 Her Voice: Role of Shared Decision Making for PrEP in African American Transgender Women

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Background: Shared decision making (SDM) is a strategy to reduce healthcare disparities by improving patient-provider communication and subsequent health outcomes. SDM has been infrequently studied in patients with intersectional identities such as trans women of color. We identified individual, community, and healthcare factors that impact SDM between African-American (AA) transgender women and providers around HIV pre-exposure prophylaxis (PrEP).

Methods: There were 24 semi-structured, in-person interviews and two focus groups conducted from 2016–2017. Participants were eligible if ≥18 years of age, identified as an AA or Black transgender woman, and reported having sex with men within the past two years. Interview transcripts were thematically coded and analyzed using qualitative data analysis software.

Results: There were 38 individuals who completed the study; the majority of the studies (n=25, 65.8%) were missing content.

Conclusions: SDM about PrEP can be effective if bidirectional information exchange occurs, since identity and sexual practices are central to the conversation. Providers should work to establish trans-culturally competent practices to facilitate information sharing and acknowledge that deliberation about PrEP frequently occurs over repeated visits. Developing decision aids and providing peer education for PrEP will empower engagement in SDM for African-American transgender women.

187 Retention in Care: Medical Care Coordination Process and Outcome

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Background: The Division of Human Immunodeficiency Disorder (HIV) and Sexually Transmitted Disease (STD) Program (DHSP) initiated the MCC program in efforts to address barriers with HIV positive population regarding medication adherence and retention in healthcare services. Despite increased education and medical advances, there is still a large population that is not medically adherent, consequently increasing the spread of HIV. According to the Epidemiology Program in Los Angeles (2015), approximately 60,000 people were known to live with HIV/AIDS in Los Angeles County, 14% of whom were unaware of their infection.

Methods: MCC is a state funded program stationed at various HIV clinics in Los Angeles County. The program focuses on the coordination care to aid in the prevention of transmitting HIV by addressing psycho-social and biomedical barriers that prevent patients from medication compliance and medical care adherence. MCC uses an interdisciplinary approach that encompasses Primary Care Provider, Patient Care Manager (Master Level Social Worker), Medical Care Manager (Registered Nurse), and Medical Case Worker to work closely with the patient. MCC helps in alleviating barriers such as: homelessness, drug addiction, mental disorder and education deficits. The process of alleviating such barriers consists of linking patients to housing agencies, brief interventions, referrals, reassessment of care, and referrals to drug rehabilitation centers.

Results: According to DHSP, case watch, assessment data, baseline characteristics in active MCC from June 2017–December 2017 (N=270) the viral suppression of MCC patients prior to starting the MCC program revealed 40 % had a viral load more than 200 copies/ml and 60 % had a viral load less than 200 copies/ml. After six months of MCC services it revealed 32 % had a viral load more than 200 copies/ml and 68% had a viral load less than 200 copies/ml.

Conclusions: At MLK OASIS there are 270 patients enrolled in the MCC program. Of those enrolled in the MCC program, 68% of patients are considered to be self-managed, indicating that their viral load is less than the 200 copies/ml after receiving services for six months. A multidisciplinary care team approach was effective.

189 Before Data to Care: Using Surveillance Data to Understand the Viral Suppression Status of People Living with HIV in Washington, DC from 2011-2016

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Background: Data to Care refers to the use of HIV surveillance information for the identification and linkage/re-engagement of individuals who are lost-to-care. Before data to care is initiated, an understanding of viral suppression in people living with HIV (PLWH) is necessary. The goal of this analysis is to use surveillance data to explore viral suppression status over time in PLWH in DC.

Methods: Adults diagnosed with HIV in 2011, reported to the DC HIV surveillance system, and alive through the end of 2016 with at least one viral load lab test reported from 2011–2016. Viral status was assumed for the six months following a viral load test report and assessed through 2016. Median time virally suppressed, median time not virally suppressed, and median time of unknown suppression status were compared by demographic factors. Statistical differences were assessed using chi-squared, non-parametric, and multivariable logistic regression analyses.

Results: Among the 651 eligible cases, the median time virally suppressed (VS), not virally suppressed (NVS), and unknown viral status (UVS) were 25, 5, and 23 months respectively. People age 20–24 had greater odds of being above the median time NVS compared to those age 30–39 (OR: 4.42 95% CI: 2.463–7.929) Blacks showed increased odds of being above the median time NVS compared to Whites and Hispanics independently. (OR: 3.272 95% CI: 1.941–5.515; OR: 2.023 95% CI: 1.063–3.847) Compared with females, males had greater odds of being above the median time UVS. (OR: 1.803 95% CI: 1.122–2.898) Similarly, people with heterosexual transmission mode had significantly increased odds of being above the median time UVS than MSM. (OR: 1.990 95% CI: 1.223–3.239).

Conclusions: This analysis of viral suppression is the first step toward understanding the care/treatment patterns of PLWH. As data to care development proceeds, local definitions should be identified to target re-engagement efforts most efficiently.

191 Challenges and Lessons from Implementing Collaborative HIV Research in the Caribbean

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Background: Collaborative studies in the Caribbean region are difficult to implement with limited resources. Investigators are managing multiple responsibilities of care, training and research. US regulations such as HIPPA compliance do not apply to international sites. With a relatively small share of the global epidemic, its HIV prevalence is second after sub-Saharan Africa and viral suppression as well as time to treatment initiation is below global average.

Methods: In December 2010, we proposed an adherence study among five Caribbean countries (four languages). The protocol was ready by April 2011 and several meetings were held among co-investigators to choose the appropriate instruments. Questionnaires include adherence, stigma, depression screening, sociodemographic and lifestyles. Disease progression was abstracted from records. Objective data included viral load testing and pill count when possible. Due to stigma, many patients changed their pills to other containers to avoid being identified.

Results: The investigators and sites had to overcome numerous obstacles to implement the study. Reasons included: delays in obtaining all the US human subjects requirements from international sites; delays with translations; harmonization needed for one site with three IRB's; additional requirements by the central data and analysis group, resignation of one of the PIs and relocation of one site. After a unified protocol was acceptable to all involved and cultural adaptations of the questionnaires were performed, the investigators and staff from the data coordinating center travelled to all three remaining sites (Haiti, Jamaica and Puerto Rico) for protocol training. Implementation started in 2014. We have enrolled 437 participants (305 women and 128 men). Data analysis is in progress.

Conclusions: Collaborative research in the Caribbean is needed to be able to compare differences and learn from best practices. As more groups work together, groundwork for future projects will allow continuation of collaborations and sustained regional research capacity.

193 "PrEP is Bae" – Psychosocial Benefits of PrEP Empowerment

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Background: Pre-exposure prophylaxis (PrEP) is a safe and effective means of HIV prevention, but PrEP uptake is low. Evidence suggests that negative and stigmatizing attitudes toward PrEP and PrEP users may serve as barriers to uptake; however, existing literature seldom elucidates the role of positive attitudes towards PrEP as a psychosocial facilitator in promoting uptake.

Methods: To understand attitudes towards PrEP uptake, we conducted 32 semi-structured interviews with HIV-negative persons indicated for PrEP. Participants included current (N=13) and potential (N=18) PrEP users. Participants were recruited from PrEP service providers in the Southeastern United States. Each interview was audio-recorded and transcribed verbatim. Data were analyzed using an inductive coding approach, utilizing NVivo 11 software.

Results: Participants described PrEP as a valuable advancement in HIV prevention, with many using such terms as "exciting", "revolutionary", and "liberating." Participants reported that PrEP was empowering, as it provides a user-controlled extra layer of protection in cases of condom failure, inconsistent condom use, or in situations where a person may have limited ability to negotiate condom use. Empowered to manage their own HIV risk more directly through the use of PrEP, participants described the following psychosocial benefits: (1) a sense of pride and increased self-confidence in taking personal responsibility for their sexual health, (2) a decrease in anxiety, fear, and stigma related to HIV, (3) enhanced sexual pleasure, and (4) improved interpersonal relations in the context of serodiscordant relationships.

Conclusions: Our findings highlight the numerous psychosocial benefits resulting from the increased feelings of empowerment among PrEP users. Findings highlight the potential to leverage PrEP empowerment messaging in efforts to promote PrEP uptake and improve psychosocial wellbeing among at-risk persons.

195 Engagement with PositiveLinks: Identifying Classes of Users Through Latent Class Analysis

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Background: PositiveLinks (PL) is a smartphone-based platform designed to improve engagement in care among people living with HIV through features such as medication reminders, check-ins about mood and stress, quizzes, a community board, and provider messaging.

Methods: We examined patterns of PL use to identify classes of PL users. Patients at the UVA Ryan White clinic enrolled in PL between June 2016 and March 2017. We used latent class analysis (LCA) to differentiate patients based on cumulative usage of each feature at six months.

Results: We categorized responses to queries as high (≥90%), moderate (48–90%), or low. Our sample included 83 PL members with ≥6 months of app usage. Four classes emerged: "maximizers" (25%), "check-in users" (23%), "moderate users" (33%), and "as-needed communicators" (19%). "As-needed communicators" were the youngest (mean: 37 years) and most likely to be male (75%). "Moderate users" had the highest proportion of females (45%) while "maximizers" were the oldest (mean: 48 years). VS was high at baseline and 6-months among "check-in users" (89%; 94%) and "maximizers" (95%; 100%). "As-needed communicators" had the lowest VS at baseline (69%). This increased at six months (85%). "Moderate users" showed similar improvement in VS: 73% at baseline and 90% at 6-months. PL use can be divided into four classes defined by levels of engagement with each PL feature. Individuals who regularly respond to queries, regardless of their interaction with other features, were most likely to begin and remain virally suppressed.

Conclusions: Those who primarily use messaging features show the greatest improvement in VS, suggesting a key role for app-facilitated communication with anonymous peers and clinic staff for non-virally suppressed individuals.

197 Who Are the Virginia AIDS Drug Assistance Program Clients Who Gained Affordable Care Act-Qualified Health Plan Coverage?

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Background: The Virginia AIDS Drug Assistance Program (ADAP) purchased Affordable Care Act Qualified Health Plans (QHPs) for low-income people living with HIV (PLWH). Those who enrolled in ADAP-funded QHPs were more likely to achieve viral suppression than those receiving direct medication provision. It was unclear if there were fewer barriers to care for those who transitioned to QHPs. The object of this study was to analyze demographics and social determinants of health of ADAP clients who gained QHP coverage.

Methods: For this prospective study, >5% of those who gained ADAP-funded QHPs in two Virginia Department of Health planning regions were enrolled. English-speaking PLWH, ages 18–64, were recruited at three clinics. An in-depth survey was performed.

Results: For the cohort (n=53), the mean age was 41 (standard deviation (SD) 11). They were 66% male, 2% transgender, and 64% non-white. 30% were under 50% Federal Poverty Level (FPL), 30% were 51–100% FPL, 9% were under 101–133% FPL, and 13% were 134–200% FPL. Almost 10% had not completed high school and 24% had a college degree or more education. 6% had unstable housing and an additional 13% had concerns about losing housing. 28% had transportation barriers and 17% did not have access to the internet. One-quarter screened as having a problem with drinking. 23% reported using an illegal drug or using a prescription medication for non-medical reasons in the past year. Two-thirds screened as having depressive symptoms. The mean Berger Stigma Scale value was 103 (SD 20).

Conclusions: Barriers such as poverty, depression, lack of transportation and internet, stigma and concerns regarding alcohol and illicit drug use were present. On measures available at the national level (age, gender, housing), this QHP-enrolled cohort was similar to the national Ryan White population suggesting that QHP enrollment did not preferentially advantage PLWH with fewer barriers to care.

198 Impact of a Pilot Brief Behavioral Intervention Targeted at Substance Use Reduction on HIV Medication Adherence Among HIV-Positive Substance Users

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Background: Substance use among people living with HIV is linked to poor medication adherence. Interventions aimed at reducing substance use and, in turn, improving medication adherence are urgently needed. The current study describes the impact of a pilot brief behavioral intervention on medication adherence via substance use among HIV-positive substance-using adults.

Methods: A pilot brief behavioral intervention was implemented among an urban, largely-minority community sample of HIV-positive adults who used non-injection drugs and binge drank in the past 30 days. Participants were randomized to one of two groups: motivational interviewing (MI)-only (n=21) and MI+HealthCall-S (n=21). Medication adherence, defined as not missing a dose in the past seven days, and substance use assessments were completed at baseline and 60 days (end of treatment). Substance use was measured using a Timeline Follow Back of the past 30 days, which included: (1) total number of days used primary drug (NumDU), (2) total quantity of primary drug used (dollar amount spent per day; QuantDU), (3) total number of drinking days (NumDD), and (4) mean number of drinks per day (QuantDD).

Results: Of the 39 participants prescribed HIV medication at baseline and follow-up, 28% (n=11) reported non-adherence at baseline. Seven (64%) of them reported adherence at the end of the study; three in the MI-only group and four in the MI + HealthCall-S group. Of the seven participants who increased adherence, most reduced their substance use: 86% (n=6) reduced numDU, 71% (n=5) reduced QuantDU, 86% (n=6) reduced NumDD, 86% (n=6) reduced QuantDD.

Conclusions: This pilot of a brief behavioral intervention that included an arm with enhanced interactive mobile technology was able to increase medication adherence largely via reduced substance use among an urban, largely-minority community sample of HIV-positive, substance-using adults. A larger randomized trial is warranted to replicate and extend present results.

199 ART Adherence Information, Motivation, and Behaviors and Provider-Patient Relationships Among New ART Patients in Haiti

Jane Simoni[1], **Liz Haight (presenting)**[2], Nancy Puttkammer[3], Marcxime Chery[4], Jean Babriel Balan[4], Jean Guy Honore[2,4], Witson Dervis[4], Mathieu Jules[4], Jean Géto Dube[5], Wilner Genna[5], Guirlène Calixte[6]

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[6] National University Hospital, Port-au-Prince, Haiti

Background: Previous research suggests that communication between provider and patient is associated with adherence to antiretroviral therapy (ART) among patients with HIV. Haiti has scaled up the use of ART, but studies suggest low adherence which threatens long-term viral suppression and risks treatment failure to first line regimens. This study aims to describe patients' relationship with their provider; and their information, motivation, and behavioral skills concerning ART adherence.

Methods: Questionnaires were administered to 129 patients who recently enrolled in ART in two large Haitian hospitals: 66 patients from National University Hospital (HUEH) and 63 patients from Justinien University Hospital (HUJ). On average, respondents had been on ART for 68 days at the time of participation in the study. The primary questionnaires of interest for this analysis are the LifeWindows Information Motivation Behavioral Skills ART Adherence Questionnaire (LW-IMB-AAQ) and a previously tested patient-provider communication questionnaire.

Results: In terms of information, 40% of respondents somewhat agreed or strongly agreed that skipping a few of their HIV medications from time to time would not really hurt their health. In terms of motivation, 57.7% of participants agreed or strongly agreed that their healthcare provider does not give them enough support when it comes to taking their medications as prescribed. In terms of behavioral skills, 28.4% responded that it is hard or very hard to get the support needed from others including providers for taking their HIV medications. The average rating of provider dialogue concerning adherence on a 5-item scale from excellent to poor (1=excellent, 5=poor) was a 2.64.

Conclusions: Haitian ART patients from two large treatment sites report notable challenges with information, motivation, and behavioral skills for ART adherence, as well as room for improvement in patient-provider dialogue concerning adherence. Feasible interventions to guide providers in effective ART adherence counseling are still needed.

201 Health System Transformation and Redesign with Digital Technology: Developing a Digital HIV Care Navigation System for Youth and Young Adults Living with HIV in San Francisco

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Background: Digital technology is changing the landscape for health through tailored and personalized interventions. Young people are the fastest growing group of new HIV infections in the United States and are the least likely to be linked, retained, and engaged in care. The uptake of technology in health systems must go beyond electronic medical records to link, retain, and engage youth and young adults living with HIV in care.

Methods: Health eNavigation (Health eNav) is a 6-month digital HIV care navigation intervention that connects young people living with HIV to their own digital HIV care navigator using SMS text messaging to improve their engagement in HIV care. Participants were either: (1) newly diagnosed, (2) out-of-care, or (3) not virally suppressed. We recruited and enrolled 120 youth and young adults living with HIV in San Francisco. Participants completed comprehensive psychosocial and behavioral surveys at baseline, 6-months, 12-months, and 18-months.

Results: Health system transformation and redesign using digital technology requires multi-level partnerships and a transdisciplinary understanding of information architecture, the lived experiences of young people living with HIV, and systems science. Digital HIV care navigation is acceptable and feasible to implement at the health department level. Participants' ages ranged from 18 to 34. Half identified as people of color, with the largest group being Latino/a, followed by African American and Asian. Of those, 80% were successfully retained in the intervention period. Retention of youth and young adults living with HIV must include a varied social media presence and a health education and health promotion practice centered on youth culture and peers.

Conclusions: Digital health interventions have the potential for bridging any distance in space and in real-time, providing information, interaction and inspiration for those who need it, when they need it most. Digital technology can drive health system transformation and redesign even for the hardest to reach populations.

202 Retention in Care of HIV-Positive Postpartum Females in Santiago, Dominican Republic

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Background: Although the incorporation of Option B+ has led to significant improvements in preventing mother-to-child transmission of HIV in the Dominican Republic, there has been no evaluation of the outcomes of women in the postpartum phase, a time when women are at high risk of disengaging from care. We conducted the first evaluation of postpartum retention in HIV care at a large referral hospital in Santiago, Dominican Republic.

Methods: We performed a two-year retrospective study of women who delivered between 2014–2016 at Hospitál Regional Universitario José María Cabral y Báez in Santiago, Dominican Republic. The outcome was classified as optimal follow-up, suboptimal follow-up, and loss to follow-up (LTFU). A chi-square test of independence was performed to examine the relationship between level of follow-up and predictors of follow-up.

Results: There were 43 women included in this analysis with a median age of 25. 70% had completed at least primary school, 49% identified as Dominican, 44% identified as Haitian, 81% were not married, and 28% were started on ARVs in the third trimester. Follow-up was optimal in 72%, and non-optimal in 27%. Of those who had optimal follow-up and viral load data, only 54% had a suppressed viral load at one year after delivery. Patients of Haitian origin were less likely to have optimal follow-up than were patients of Dominican origin ($X2=4.87$, $p<.05$).

Conclusions: At one year postpartum, only 70% of women remained in care with the highest risk of disengagement among women of Haitian origin. Even for those with optimal follow-up, a large proportion had uncontrolled viral loads. Targeted interventions focused on improving retention in these populations and improving medication adherence even among those who attend visits should be explored.

203 Impact of a Pilot Brief Behavioral Intervention Targeted at Substance Use Reduction on HIV Risk Behavior Among HIV-Positive Substance Users

Justin Knox (presenting)[1], Deborah Hasin[1], Efrat Aharonovich[2]

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Background: Substance use among people living with HIV is linked to risk of onward HIV transmission. Interventions aimed at reducing substance use and, in turn, decreasing HIV risk behavior are urgently needed. The current study describes the impact of a pilot brief behavioral intervention on HIV risk behavior via substance use among HIV-positive substance-using adults.

Methods: A pilot brief behavioral intervention was implemented among an urban, largely-minority community sample of HIV-positive adults who used non-injection drugs and binge drank in the past 30 days. Participants were randomized to one of two groups: motivational interviewing (MI)-only (n=21) and MI+HealthCall-S (n=21). HIV risk behavior, defined as unprotected sexual intercourse with a non-HIV positive partner in the past 30 days, and substance use assessments were completed at baseline and 60-days. Substance use was measured using a Timeline Follow Back of the past 30 days, which included: (1) total number of days used primary drug (NumDU), (2) total quantity (dollar amount spent) of primary drug used (QuantDU), (3) total number of drinking days (NumDD), and (4) mean number of drinks per day (QuantDD).

Results: At baseline, 17% (n=7) of participants reported engaging in HIV risk behavior. Four (57%) of them reported no HIV risk behavior at the end of the study; three in the MI-only group and one in the MI+HealthCall-S group. Of the four participants who reduced their HIV risk behavior, most reduced their substance use: 100% (n=4) reduced numDU, 75% (n=3) reduced QuantDU, 100% (n=4) reduced NumDD, 100% (n=4) reduced QuantDD.

Conclusions: This pilot of a brief behavioral intervention that included an arm with enhanced interactive mobile technology was able to reduce HIV risk behavior largely via reduced substance use among an urban, largely-minority community sample of HIV-positive, substance-using adults. A larger randomized trial is warranted to replicate and extend present results.

206 Ending the HIV Epidemic with Facility Cascades: From Adoption to Implementation

Leah Hollander (presenting)[1], Daniel Ikeda[2], Daniel Belanger[3], Susan Weigl[3], Steven Sawicki[1], Nanette Maganani[3], Laura O'Shea[1], Clemens Steinbock[1], Bruce Agins[3]

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Background: HIV treatment cascades have traditionally been used to look at population-level health outcomes. The New York State (NYS) Department of Health AIDS Institute has pioneered the use of cascades at the level of the healthcare organization, requiring all HIV clinics in NYS to submit Organizational Treatment Cascades as part of the annual Quality of Care Reviews in 2017 and 2018. Healthcare organizations develop improvement plans to address the gaps in care identified in the cascades, bringing a population health approach to facility-based improvement.

Methods: Over 260 HIV clinics, representing more than 80 organizations, participate in the Quality of Care Review, creating cascades for newly and previously diagnosed patients. After analyzing their data, organizations develop improvement plans to address gaps identified in cascade outcomes. The areas of focus for improvement activities have been: (1) engaging patients accessing the healthcare system for non-HIV services, but not known to be in HIV care, (2) linkage to care for newly diagnosed patients, and (3) viral suppression.

Results: Improvement activities are grouped into the following categories: Health System, Delivery System Design, Patient-Centered Care, Knowledge Management and Decision Support, Measurement and IT Strategies, Community, and Financial Strategies. While some improvement activities, such as those addressing ascertainment of care status of patients seen outside the HIV program, are implemented at the organizational level, differences in clinic settings and populations require some gaps to be addressed with site-specific improvement plans. Drilling down data by patient characteristics allows organizations to plan targeted interventions that address the populations with the biggest disparities in outcomes along the HIV care continuum. Staff turnover impedes the ability of some organizations to implement their improvement plans.

Conclusions: The development and implementation of improvement activities based on cascade data is a vital component of reaching the Ending the Epidemic goals in NYS by 2020.

207 Challenges of Connecting HIV-Positive Young Men to Care: Voices of Young Men of Color Who Have Sex with Men

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Background: No group is at greater risk for acquiring HIV than young men who have sex with men (YMSM), particularly Black/African American (AA) and Hispanic/Latino (L) YMSM who account for the largest number of new infections. When considering the HIV Care Continuum, linkage to care remains a challenge with YMSM, particularly AA/L-YMSM, who are the least likely population to receive care.

Methods: As part of the Healthy Young Men's Cohort Study, we conducted modified, qualitative Timeline Follow Back (TLFB) interviews with AA/L YMSM who had seroconverted in the last six months (n=21). Additional inclusion criteria for the study included: ages 16 to 24; male; self-identified as gay, bisexual, or uncertain; had a same-sex encounter within the previous 12 months; and self-identified as AA, L or multi-ethnic.

Results: Qualitative data provide a description of the challenges AA/L-YMSM experience in linking to HIV care once they seroconvert. In general, AA/L-YMSM were hesitant to share information about their HIV status with friends or family; this fear was often transferred to seeking care, with young men fearing information about their status would be shared with others. The AA/L-YMSM in this study also described a number of additional challenges they were struggling with including family violence, residential instability, lack of insurance, lack of familiarity with healthcare in general, and substance misuse. These multiple stressors tend to impede access to care. AA/L-YMSM who were linked to care describe both positive and negative experiences with care, providing clear recommendations on the most effective method to engage AA/L-YMSM in HIV care. For example, mental health concerns were frequently mentioned and served as an additional barrier to care; therefore, providers who can provide direct referrals to mental health support are preferred.

Conclusions: The depth of data provide clear recommendations for providers to integrate into their practice to address the disparities in linkage to HIV care for AA/L-YMSM. Findings also suggest the need for tailored interventions that address the holistic needs of AA/L-YMSM to reduce the many barriers to care their lives include.

210 The Effect of Substance Use on Viral Suppression Among HIV+ Men and Transgender Women Released from a Large Municipal Jail: Results of the LINK LA Randomized Controlled Trial

William Cunningham (presenting)

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Background: One in seven PLWH pass through correctional facilities annually. While incarcerated, PLWH receive ART and achieve viral suppression (VS) more consistently than after release. We previously showed that the LINK LA randomized controlled trial of a peer navigation (PN) intervention sustained VS 12 months post-release. However, it is unknown whether substance use predicted worse trial outcomes.

Methods: We conducted post-hoc analysis of the 2012–2016 LINK LA trial among HIV+ men or transgender women released from Los Angeles County jail. At baseline, we interviewed, measured viral load (VL), and randomized PLWH 1:1 to the PN intervention vs. transitional case management (TCM) controls. PNs assessed barriers and facilitators and counseled PLWH on goal-setting and problem-solving, beginning in jail. Post-release, PNs continued counseling while they accompanied PLWH to two HIV care visits and helped "walk PLWH through" other HIV care continuum steps. We used multivariable, repeated measures, logistic, random intercept regression to model VS outcomes over time; predictors were baseline gender/risk group, substance use, income, VL, intervention arm, time, and intervention-by-time interactions.

Results: Among intervention (n=180) and control (n=176) participants, 58% used methamphetamines, 20% crack or cocaine, 11% heroin or other opiates (illicit drugs), and 25% used 5+ alcoholic drinks per sitting during the month prior to incarceration, without difference by arm. MSM and TGW were most likely to use illicit drugs, while those under 35, who had better mental health, and were on ART were most likely to binge on alcohol. Drug users, but not alcohol bingers had lower odds of VS than others at 12 months, independent of intervention effects – OR=0.58; 95%CI 0.35–0.96.

Conclusions: Regardless of treatment arm, illicit drug users were 48% less likely to be suppressed. Addressing substance use, in addition to retention in care and adherence, is essential for sustained viral suppression after release from jail.

211 *Sin Verguenza* (Without Shame): Using a Bilingual Telenovela Series as an Educational Tool to Address Barriers in HIV

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Background: AltaMed's bilingual telenovela web series *Sin Verguenza* was developed in 2012 to address HIV in Latino communities. Now in its third season, *Sin Verguenza* has become a prominent educational tool used nationwide to create awareness and education on HIV. The series returned in 2018 to address themes stigmatized including alcoholism, homophobia, and transphobia.

Methods: Using social media channels and a dedicated website, AltaMed evaluated its digital reach of the campaign using people reached, views, and engagement as its goal metrics. The marketing strategy comprised of using existing vertically integrated social media networks or partnerships to engage Latinos ages 18–49.

Results: In this nontraditional educational format, the telenovela series has reached over 1.6 million views online. AltaMed's digital campaign has reached a group that remains disproportionately impacted by HIV. Season 3 has reached 2.8M people, 1M views, and over 12K post engagements. 51% of those reached have taken action including viewing, liking, commenting, and/or sharing the video, which is an organic metric that measures audience response.

Conclusions: The marketing strategy has evolved each season using evaluation of A/B ad testing, CPV, CPC, and other measures to drive the best results at the lowest costs taking advantage of the organic virality. Through @AltaPride, 84% of view metrics come from Facebook followed by YouTube. Spanish versions of the telenovela have high viewership in highly dense Latino communities in the United States such as California, Texas, and New York and has expanded through Latin America including Mexico, Colombia, and Chile demonstrating its impact as an effective educational tool.

213 Bioequivalence of Tenofovir in Digital Pills

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Background: Digital pills, gelatin capsules with radiofrequency transmitters activated by stomach chloride ions, over-encapsulate and directly measure medication adherence. In individuals with substance use disorders and HIV, real-time nonadherence detected by digital pills creates a novel space to develop substance use and adherence skill interventions to promote sobriety and encourage engagement with care. In this study, we determined the bioequivalence of Tenofovir (TNF) in healthy human volunteers with and without digital pills.

Methods: This study adhered to the US FDA Analytical Procedures and Methods for Validation for Drugs and Biologics guidelines. Five healthy adult volunteers were recruited through advertisements. Participants >18 years old, nonpregnant, HIV negative, and without reported allergy to Tenofovir, Emtricitabine or Rilpivirine were enrolled in the study. Participants presented to our center for clinical investigation (CCI) after fasting overnight; they provided written informed consent, received a meal of at least 400 cal and 10g fat, and ingested a digital pill containing Tenofovir/Emtricitabine/Rilpivirine (Complera). Peripheral venous blood samples were collected at 0.5, 1, 2, 4, 8 and 24 hours post ingestion. After a 14-day washout period, participants returned to the CCI and ingested Complera without the digital pill. Serial venous blood samples were collected using the similar protocol to ingestion of the digital pill. Liquid Chromatography/Mass Spectroscopy (LC/MS) was used to determine a maximum concentration (Cmax) and Area Under the Curve (AUC) of TNF in comparison to the commercially available TNF standard.

Results: Ten participants completed the study. Mean age was 30, 20% (N=2) were male, 80% (N=8) were female. The geometric means of AUCo-t, AUCoo, and Cmax for test and reference products were 985.1 and 989.5 ng.hour/mL; 1269 and 1127 ng.hour/mL; and 119.3 and 111.1 ng/mL, respectively. Their ratios were 1.00, 0.995 and 1.07, respectively, all falling within 90% confidence intervals limits of 0.8 to 1.25.

Conclusions: Our data indicate that digital pills have no effect on the bioequivalence of TNF. These preliminary data suggest investigators can use digital pills containing TNF to measure adherence without compromising TNF absorption and dosing.

214 HIV Prevention and Support for MSM Refugees in Paris

Komi Honam GBONE (presenting)

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Background: In France, a study showed that "the experience of an MSM refugee is characterized by strong psychological pressure, severe social anxiety, great suffering, frequent racketeering, blackmail, anguish, silence, isolation, self-stigmatization, violence, rejection, denial of justice, stigmatization in the health structures in their home country, in addition to exclusion within their families." This study also identified a number of needs the leaders of MSM associations have in terms of reinforcement and support so that they can improve their community system through ARDHIS in France.

Methods: It is this outlook that established an association for their companions in their requests for asylum, help lines, guidance, and provision of services adapted to MSM. Ardhis positioned itself as a place to live, a space to meet and socialize, a framework for MSM, a reference center for issues related to homosexuality, and help to gain access to a residency card, but now today it also sets up a system of health care and STI/HIV prevention at each monthly meeting. The center is frequented by MSM, bi, gay, trans, and we can also include the large LGBT group and sex workers.

Results: The management and execution of STI/HIV prevention is done by an MSM refugee who was originally an activist in his home country and is now a Public Health student in France. The package of services offered revolves around three axes: the welcoming space offered, the health services, and other available services. The health services take into account the diagnosis and treatment of STIs, the rapid HIV screening (Afrique Arc-En-Ciel de Paris), support and monitoring of HIV-positive MSM. The other services offered include legal assistance and psychological counseling.

Conclusions: From its creation in June 2017 to February 2018, the recorded number of visits is 6,760 MSM, in regards to those who sought medical consultation for STIs, we note 386 MSM, and for voluntary screening, 301 MSM. The distribution of condoms and of gel is 16,276 each. It must be said that in view of these results, the impact is incredible.

215 What We Want and How to Do Better: Improving Service Provision to Adolescent and Young People Living with HIV

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Background: Adolescent and young people living with HIV (A&YPLHIV) face poorly tailored services around disclosure, treatment literacy, adherence support and mental health. Judgmental service providers, lack of privacy, inflexible appointments and inappropriate environments dramatically reduce uptake and retention in services. Early in 2017 Y+ decided to take steps towards improving access to services by A&YPLHIV especially in sub-Sahara Africa

Methods: Working through focal points in Zimbabwe, Tanzania, Swaziland and Mozambique, Y+ launched a consultation among A&YPLHIV. The consultation was led by the focal point through 101 interview and focus groups discussion. Responses were coded to distil priority needs and demands directly from A&YPLHIV about what really matters in regards to service provision. The Y+ team used these to develop a youth charter for service providers to promote and champion good practice in services and to help young people know what they can expect from health providers. The charter is based on a series of DOs and DON'Ts drawn from the experience of what makes A&YPLHIV feel happy or unhappy when they attend services. The draft tool was shared with service providers for their feedback, input and buy-in.

Results: A&YPLHIV have specific needs and rights in relation to service access including treatment literacy, literacy, SRHR, appropriate environments and psychosocial support. Both A&YPLHIV and health providers have welcomed the tool – they particularly liked its simplicity and the honest language it uses. Having young people living with HIV lead the process meant that real needs, challenges and solutions were raised.

Conclusions: The positive response to the tool from both health providers and young people alike demonstrates that services still need guidance to meet the needs and rights of A&YPLHIV. A guide to facilitate A&YPLHIV to introduce the charter to health facilities and use it as a monitoring tool is under development. We see the charter as a bridge towards an ongoing collaboration between health workers and A&YPLHIV to improve their access to services.

216 Food Insecurity is Associated with Lower Levels of Antiretroviral Drug Concentrations in Hair Among a Cohort of Women Living with HIV in the United States

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Background: Food insecurity is a well-established determinant of sub-optimal self-reported antiretroviral therapy (ART) adherence, but few studies have investigated this association using objective adherence measures. Concentration of ART in hair is an objective and validated measure of drug adherence and exposure. Utilizing longitudinal data, we examined whether food insecurity was associated with lower levels of ART concentrations in hair among women living with HIV (WLHIV).

Methods: We analyzed longitudinal data collected semi-annually from 2013–2015 from the Women's Interagency HIV Study, a multi-site prospective cohort study of WLHIV and HIV-negative controls in the United States. Our sample comprised 1,944 person-visits from 677 WLHIV. Food security was measured using the U.S. Household Food Security Survey Module; scores ranged from 0–18 with higher scores indicating increased food insecurity. ART concentrations in hair were measured using high performance liquid chromatography mass spectrometry for regimens including darunavir, atazanavir, raltegravir or dolutegravir. We conducted multiple three-level linear regressions that accounted for repeated measures and the ART medication(s) taken at each visit, adjusting for sociodemographic characteristics (age, race/ethnicity, income, and education) kidney (eGFR) and liver (ALT & AST) function.

Results: At baseline, 59% were virally suppressed and the median time on ART was 7.1 years [interquartile range: 2.5, 14.3]. Nearly half (45%) reported some degree of food insecurity. In the base model, each 3-point increase in food insecurity was associated with 0.93-fold lower ART concentration in hair (95% CI: 0.88, 0.98; p=0.010). This effect remained unchanged after controlling for socio-demographic characteristics and kidney and liver function.

Conclusions: Food insecurity was associated with lower ART concentrations in hair, suggesting that food insecurity may be associated with sub-optimal ART adherence and/or drug absorption. Interventions that aim to improve ART adherence among WLHIV should consider and address the role of food insecurity.

217 Provider Perspectives on Caring for Transgender Women: A Model for HIV Treatment and Prevention

Damian Denson (presenting)[1], Deborah Gelaude[1], Clarke Erickson[2], Nikita Malcolm[2], Julia Rollison[2], Alex Mijares[3], Jamie Hart[2], Cynthia Klien[3]

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Background: Providing care to transgender women is complex as women present to providers with myriad issues that affect their health, including high-risk factors for HIV/STDs and other co-morbidities. Providers must self-educate on how to serve transgender women in the absence of training and guidance, especially in relation to co-management of primary care, HIV treatment, and hormone replacement therapy and gender confirmation surgery. Our study explores the experiences and perceptions of providers with transgender women patients and how they manage women's intersecting healthcare needs.

Methods: In-depth semi-structured interviews were conducted with 10 health care providers in 2017 as part of a qualitative study on the experiences of HIV prevention and care among transgender women. Providers were referred into the study by transgender women or through online research. Qualitative content analysis was used to code interviews and identify themes in care provision.

Results: Of the 10 providers, three are medical doctors, five are nurse practitioners, and two are physician assistants. Eight provide care to HIV-positive transgender women, nine prescribe hormone replacement therapy and six provide primary care services. Themes in the narratives suggest that providers are treating transgender women based on experience, which includes providing safe clinic environments, using appropriate language and terminology for anatomy and HIV risk, co-managing HIV and gender confirmation care, addressing electronic medical record and billing code issues, providing case management to meet social and legal needs, and prioritizing safe transition as part of HIV care and treatment.

Conclusions: Due to evidence that providers are learning through experience, a model of care for transgender women may assist with HIV treatment and prevention. This model of care could include how to prioritize gender affirmation, support psychosocial and subsistence needs, co-manage HIV care with primary care and hormone replacement therapy, knowledge on sensitivities in terminology, and policy changes that correctly assign electronic medical records and billing codes.

218 Adherence and Youth Living with HIV: An Intersectorial Approach

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Background: After the HAART (highly active antiretroviral therapy) era, HIV perinatally infected children were able to reach adolescence and youth ages. The lack of compliance to antiretroviral therapy (ART) is a characteristic of this age group, frequently leading them to illness and death.

Methods: Many studies have shown that adherence to treatment is closely linked to the dreams of social ascension for these adolescents. Employment position and formal education are the main reasons for good adherence. In order to achieve higher rates of compliance to the treatment the Non-Governmental Organization (NGO) called "Association for the Support of Children and Adolescents Living with HIV," developed a project called "VIVERE." This project promotes financial support to cover the costs of formal education or professionalizing courses for those who cannot afford these expenses and are interested in continuing their studies. Twenty-six adolescents (one black, 11 white, and 14 mulatos) have already been registered in the VIVERE project and six have completed their courses (four male and two female). Fourteen are still studying (six male and eight female) in 12 university courses and two in vocational training. Six have abandoned the project: one young woman because she got pregnant, another due to a job schedule which was incompatible with the chosen course, and four of them did not reveal their reasons.

Results: The financial support for the educational expenses is conditioned to a counterpart of the adolescent who must show good performance in the chosen course and also adherence to the treatment, proven by the lab tests results (HIV viral load and CD4+ cells count) and, after finishing the course, helping other adolescents connected to the project.

Conclusions: Support for the formal education and professional training for adolescents have fundamental importance. The NGO is still working on the search for sponsors that support this project.

219 Mixed Understanding of "Missed Dose" and "Best Guess" in Adherence Self-Report: Results of Cognitive Interviews with Young Women and Men Who Have Sex with Men in South Africa

K. Rivet Amico (presenting)[1], Megan Mueller[1], Emily Hill[1], Danielle Bohn[1], Jessica Milne[1], Hannah Brady[1], Sithembile Phakathi[2], Makhozasane Mdladla[2], Millicent Atujuna[3], Thando Wonxie[3], Nangamso Ngcwayi[3], Thembekile Shato[1], Hilton Humphries[2]

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Background: Patients and participants in HIV treatment and prevention projects are often asked to report on adherence. Use of a "permission statement" to estimate adherence (e.g.., "take your best guess") and asking about "missed doses" are common. To understand how participants interpret these, we conducted cognitive interviews among young women and men who have sex with men (MSM) in South Africa.

Methods: Transcripts from 49 interviews with young (18–24 yo) women and MSM in Cape Town and KwaZulu-Natal were conducted in 2017, transcribed, and reviewed. Discourse specific to interpretations of "it's OK to take your best guess" and meaning of "missed dose" was extracted, themes identified, and main responses quantified.

Results: As indicated in table 1, over half of the participants said taking one's best guess should not be included in surveys, which differed by sex of interviewee – 67% of males and only 44% of females said not to include it. Main themes emerging relative to "best guess" included: (1) feeling it implies permission to lie or over-estimate adherence, (2) explaining that people would not have to guess if they knew and followed instructions, and (3) feeling the wording needed to be rephrased (e.g.., estimate versus guess). For interpretations of "missed doses," half of the participants with discourse on this issue referred to some aspect of dose timing, with many of these (62%) describing missed doses as doses that were not taken at or around the prescribed dose time. Themes included dosing outside of a time window or a portion of the day (e.g.., morning or evening), incorrect dose quantities, or a mix of responses.

Conclusions: Implications for adherence assessments include rephrasing or removal of "best guess" statements and providing a clear definition of missed doses specific to dose-times to improve consistency in participant interpretations.

TABLE 1: Themes and Example Quotes

Themes	Example
Missed dose is dosing outside of a portion of the day	*I: If you were meant to take your medication at 9 and you took it at 11 is that a missed dose?* *P: No, I have not missed it.* *I: If you had to take it at 9 in the morning and you took it at 9 at night is that a missed dose?* *P: Yes.*
Missed dose is missing the full day	*I: Yes, does it mean missed a pill or at that you missed the specified time?* *P: It means not taking it completely until the next day*
Missed dose is incorrect amount	*P: They mean when you are told to take two spoons and you take one.*
Missed dose is anything outside of exact dose time	*I: So if you don't take your medication on the right time it means you missed the dose?* *P: Yes.*
'It's OK to your best guess" should NOT be asked	*The person must say the correct answer and not guess it.*
'It's OK to your best guess" gives permission to over-estimate or "lie"	*It is not okay I would not like it because it would allow people to lie.*
'It's OK to your best guess" is not needed if people know their regimen	*I do not think it is a good idea because everything is written on the treatment package.*
'It's OK to your best guess" may help with recall	*It would help a person who has no recollection at all to at least estimate.*
'It's OK to your best guess" should be rephrased	*Yes I think it is okay to estimate, but I do not think it is okay to guess and I do not think this question should be added because it is irrelevant.*

220 Factors Associated with Healthcare Utilization Among People Living with HIV Who Abuse Alcohol and Drugs: Gender Differences

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Background: People living with HIV (PLWH) who regularly use primary care are more likely to have access to lifesaving treatment, have better indictors of health status, and survive longer. Our objective was to identify factors associated with and gender differences in healthcare utilization among PLWH who abuse alcohol and other drugs (AOD) in Miami, FL.

Methods: The Andersen behavioral model of healthcare utilization (predisposing, enabling, and need factors) was used to identify characteristics affecting service utilization among 354 PLWH who abuse AOD. Multiple linear regressions were performed separately for men and women.

Results: Most participants were male (64%), minority (76% African American, 15% Hispanic, and 8% other), and had at least a high school diploma. Men and women had similar AUDIT scores (mean =5 SD 7.1 p=0.69). Although, both genders had health insurance, (93% vs. 96% p=0.19) women were less likely to utilize services (p=0.05) and more likely to visit the emergency room than men (p=0.001). Drug use was negatively associated with visiting the HIV provider for both genders (p=0.001). Satisfaction with health visits (p=0.001) and usual place of treatment (p=0.01) were associated with more provider visits for women, while having health insurance was associated with more provider visits for men (p=0.001).

Conclusions: Gender differences exist in the degree of and reasons for differences in HIV service utilization. Further study on gender differences in social and behavioral characteristics associated with healthcare utilization is warranted.

222 Awareness and Reactions to PrEP Among Adolescent Girls and Young Women (AGYW) in Communities Around Lake Victoria, Kenya: Setting an Agenda for Community Mobilization

K. Rivet Amico (presenting)[1], Nadia Nguyen[2], Kenneth Ngure[3], Joanne Mantell[2], Benjamin Young[4], Zachary Kwena[5], Emma Stacey[4], Perez Ochwal[5], Tsitsi Masvaure[2], Denice Ochola[2], Paige Ryland[2], Pablo Valente[2], Jacqueline Wall[2], José M. Zuniga[4], Elizabeth Bukusi[5], Robert Remien[2]

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Background: Young women ages 15–24 comprise one-third of all new HIV infections in Kenya. In 2017 the Ministry of Health introduced implementation of PrEP into its HIV Prevention Revolution Roadmap. Current awareness of and attitudes towards PrEP among AGYW are important considerations for roll-out planning.

Methods: Sixty semi-structured interviews were conducted with HIV negative AGYW in three fishing and non-fishing communities along Lake Victoria. Questions included PrEP awareness and perceived benefits and concerns. Themes were inductively identified and categorized (PrEP awareness [heard of PrEP or not], level of knowledge [none, inaccurate, basic and highly knowledgeable], and general level of support [against, no overt concerns but not supportive, mix of support and concerns, and supportive]).

Results: Fifty-six percent of AGYW had ever heard of PrEP, which appeared similar across communities. Participants reported hearing about PrEP on TV, radio and through special programs. Detailed knowledge of PrEP was generally low; 49% having no knowledge and ~13% providing inaccurate information (e.g., confusing PrEP with ART or PEP). Inaccurate information was more common in Kisumu (35%) than in other areas (–5%). The 10–15% of highly knowledgeable AGYW were concentrated in Homa Bay and Siaya fishing communities. Eleven percent were not supportive of PrEP, 39% expressed mixed support, 22% noted no real concerns, and 28% were supportive. The main benefit (HIV prevention) was positioned within an understanding of PrEP being for those at highest risk (e.g., sex workers) and amid concerns about "risk compensation" (abandonment of condoms, increased numbers of sex partners, and increases in STIs), which was greatest in Kisumu.

Conclusions: Low levels of PrEP knowledge coupled with concerns about risk compensation (the resounding reaction when learning about PrEP) suggest that innovative community awareness campaigns are needed.

228 Intersecting Discrimination and Internalized Stigmas Differ by Race, Age, and Year of HIV-Diagnosis Among MSM Who Use Substances

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Background: Discrimination and internalized stigma related to intersecting identities are identified barriers to engagement in HIV self-care among gay, bisexual, and other men who have sex with men (MSM) living with HIV. However, in order to develop effective interventions to address these barriers, it is important to understand whether MSM with HIV are differentially impacted by these barriers.

Methods: We collected self-report data from 103 MSM living with HIV who use substances, including demographics, date of diagnosis, experienced discrimination and internalized stigmas related to HIV-status, race, sexual orientation, and substance use. We conducted ANOVAs and t-tests comparing discrimination and stigma by demographic information, including whether participants acquired HIV before or after ART in 1996. We hypothesized that men of color would report more racial discrimination and older MSM and men diagnosed pre-1996 would report more discrimination and internalized stigma.

Results: The sample self-identified as follows: 44% Black, 44% White, and 15% Hispanic. Sixty-nine percent identified as gay, 26% bisexual, and 76% reported an annual income of ≤$20,000. Being non-white was associated with greater experienced racial discrimination ($F=7.416$ ($df=100$), $p=0.001$) and internalized homonegativity ($F=4.923$($df=100$), $p=0.009$).

Conclusion: Interventions focused on reducing the impact of discrimination and internalized stigma as barriers to HIV care may benefit from considering adapting the content based on race, age, and cohort in which individuals were diagnosed with HIV.

229 Perceived Barriers and Facilitators to Successful Implementation of Pre-Exposure Prophylaxis at Planned Parenthood of Southern New England

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Background: Because pregnancy and HIV prevention services can be paired, sexual/reproductive healthcare settings may be optimal for delivering pre-exposure prophylaxis (PrEP) to women. While barriers and facilitators to PrEP implementation in primary and HIV care settings have been well documented, these factors are less understood in the context of sexual/reproductive healthcare settings. The aims of this study were to: (1) understand the attitudes of Planned Parenthood of Southern New England (PPSNE) leadership and care team members toward PrEP; and (2) identify perceived barriers and facilitators to PrEP implementation at PPSNE.

Methods: Individual 60-minute interviews were conducted with PPSNE leadership (n=8) and care team members (n=10) as part of a needs assessment (July–October 2016). Interviews were transcribed and coded using NVivo 11 and thematically analyzed.

Results: Interviewees (100% women/67% Non-Hispanic White) overwhelmingly expressed positive sentiments toward PrEP. Barriers and facilitators toward providing PrEP were reported at the patient-, provider-, and clinic-level. Patient perceptions of PPSNE was reported as both a barrier and facilitator: While some providers believed that potential PrEP patients would be deterred by misperceptions of PPSNE as solely an "abortion clinic," other providers thought patients viewed PPSNE as an optimal venue for HIV/STD prevention services. Other patient-level barriers included potential non-adherence and risk compensation. Provider-level barriers included limited PrEP awareness and difficulty identifying appropriate candidates, while the key facilitator was provider expertise in sexual health. Clinic-level barriers included time associated with PrEP visits and the complexity of navigating insurance and payment, while facilitators included the availability of PrEP reference materials and access to 4th generation HIV testing to promptly screen patients.

Conclusions: While interviewees expressed positive views toward PrEP and identified ways that reproductive healthcare settings uniquely enabled implementation, the study's findings underscore a continued need for PrEP training among providers and clinic protocols to maximize efficiency and streamline payment.

230 A Social-Ecological Framework to Understand Barriers to HIV Clinic Attendance in Nakivale Refugee Settlement in Uganda: A Qualitative Study

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Background: The social-ecological model proposes that efforts to modify health behaviors are influenced by multiple levels of constraints. We sought to use this framework to identify barriers to HIV care and also identify potential modifiers of those barriers in a unique humanitarian setting.

Methods: Willing adult participants newly diagnosed with HIV were invited to interview 90 days after HIV testing. Trained multi-lingual research assistants conducted semi-structured interviews with 24 clients who linked to HIV clinical care and with eight clinic staff. Three analysts employed a directed content analysis approach to explore the potential influence of the following levels of constraints to engagement in HIV clinical care: individual, social environment, physical environment, and policies.

Results: Refugee and Ugandan participants were motivated to attend the HIV clinic because of perceived quality of clinic services and the belief that antiretroviral therapy improves their health. Barriers to clinic attendance included distance to clinic, cost of transport, and heavy rain. Stigma was another barrier, as participants rarely disclosed their seropositivity beyond a few individuals or only disclosed to clinic staff. Clients often chose to bypass clinics nearer to their homes, to avoid accidental disclosure. Clinic staff spoke of temporary migration of clinic attendees away from Nakivale as a barrier to care. Participants also spoke of times away from Nakivale, primarily to visit family and to look for work, as a temporary obstacle to HIV care.

Conclusion: Clients living with HIV in Nakivale Refugee Settlement often choose not to disclose their seropositivity to friends and family. Nondisclosure makes it difficult for many to rely on community support to overcome obstacles to effectively engage in HIV clinical care. Interventions to facilitate safe HIV status disclosure, mobilize social support, and provide more flexible HIV services may help overcome barriers to HIV care in this setting.

231 Measuring and Addressing Stigma in Healthcare Settings: A Critical Component of Quality Management Programs to End the Epidemic in New York State

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Background: People living with HIV (PLWH) experience multifaceted and intersectional stigmas on a daily basis, in both community and healthcare settings, which can disrupt access to health resources and social support, limiting, in turn, the achievement of health outcomes. As a part of the annual Quality of Care Review, the New York State (NYS) Department of Health AIDS Institute worked with healthcare organizations to address barriers that stigma engenders in the healthcare setting for PLWH and key populations.

Methods: Over 80 healthcare organizations providing HIV care participated in the review, which included: (1) administration of a survey to healthcare workers (HCWs) to measure levels of HIV-related and key population-related stigma in healthcare settings adapted from the Health Policy Project instrument, (2) solicitation of consumer feedback on stigmatizing experiences, and (3) development of a stigma reduction action plan that addresses the findings from the staff survey and consumer feedback for integration into quality improvement activities. Key populations addressed in the survey included people of transgender experience, women, people with a mental health diagnosis, people of color, and men who identify as gay or bisexual.

Results: Results from the staff survey and consumer feedback found that some HCWs still hold stigmatizing beliefs about PLWH and key populations, and that consumers sometimes experience the behavioral manifestations of these beliefs. Healthcare organizations' strategies for addressing stigma fall into the following categories: Trainings, Welcoming Environment, Updating Policies, Stigma Reduction Workgroups, Contact Strategies, and Other Innovative Programming. Challenges to implementation of the stigma work include staff survey fatigue and difficulty recruiting consumers for feedback.

Conclusions: Stigma and discrimination remain an identifiable problem in New York State healthcare organizations and can be addressed through innovative quality improvement approaches. Stigma reduction strategies involving healthcare providers are a vital component of reaching the Ending the Epidemic goals in New York State.

232 Adherence to Antiretroviral Therapy in Patients of Caribbean Descent: A Look at the Ryan White HIV/AIDS Program

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Background: The Ryan White HIV/AIDS (RWHA) program gives low-income persons access to needed HIV-related care. Very little is known about the impact of services under this program. Antiretroviral therapy (ART) has allowed HIV-infected persons to live longer with improved clinical outcomes and quality of life. Complementary to ART is the care of a medical team providing many additional health services. This aids maximization of medication adherence. The objective of this study was to explore the impact on ART adherence of a health care team in the RWHA Program.

Methods: This cross-sectional study used face-to-face interviews. The convenient sample included 115 adults diagnosed with HIV/AIDS, experienced with ART, and either native-born or first-generation Caribbean persons. Adherence was measured by self-report, viral load and absolute CD4 count. Descriptive analyses and correlational analyses were conducted.

Results: Approximately 95% of the entire population reported that they were adherent to all of their doses in the last three days. The calculated adherence rate was 97.97% (SD 11.21). Ninety-one percent of the study population reported that they did not miss any of their doses in the previous weekend, 14% recalled missing a dose more than three months prior, 12.2% last missed a dose within the past week, 10.4% missed two weeks previous and 7.8% reported missing four weeks previous and two to three months past. Almost half of the patients (47.8%) reported that they never skipped any medication. A total 59% of patients had undetectable viral load readings and 38% had CD4 counts less than 500mm3.

Conclusion: Adherence is reportedly high in this population. However, a significant proportion of patients had a detectable viral load, one of the key goals of ART. Access to a healthcare team through the RWHA Program could have been a major determinant of the high adherence reported by this group of patients.

233 Patient Outcomes Are Not Just Viral Loads and CD4 Counts: Quality of Life and Work Productivity Changes Resulting from Addressing HIV-Associated Diarrhea

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Background: Gastrointestinal manifestations of HIV infection result in patients complaining of multiple loose stools per day with significant urgency, bloating, and unwanted disruptions in their quality of life when directly queried. Failure to comprehensively address the comorbidities associated with HIV limit patients' quality of life and self-worth. Our objectives were to assess the impact on quality of life and social functioning of a novel anti-diarrheal on persons with chronic, HIV-related, diarrhea.

Methods: As part of a randomized, prospective, double-blinded clinical trial, patients taking crofelemer 125 mg twice daily completed quality of life survey instrument, SF-36v2 and the work productivity and activity impairment questionnaire specific health problem (WPAI:SHP). These tools were initially administered four weeks apart during the double-blinded phase of the Phase 2/3 clinical trial and then again after 20 weeks of open labeled use. These results are being reported for the first time.

Results: At the end of four weeks of placebo-controlled portion of the study, improvements in nine of the 10 domains in the SF36v2 and in three of the four WPAI:SHP domains were documented. Improvements were retained over the subsequent 20 weeks of therapy. In the SF36, notable improvements occurred in physical, general health, social functioning, and emotional health domains. On the WPAI:SHP, improved ability to work, productivity while working, activity levels, and physical functioning were all reported. A specific example of the overall data, percent activity impairment due to diarrhea decreased by 21% (median 20%, n=192) over a six-month period.

Conclusions: Sustainable qualitative improvements in patients' lives impact long term, comprehensive adherence to treatment plans, including medications, and improvements in mental health and social functioning add further value of self-worth to persons living with HIV.

234 No Correlation Found Between Food Insecurity and ART Adherence and Retention among PLHIV in Namibia

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Background: Hunger is known to compromise treatment adherence and health outcomes for people living with HIV, however few studies have been conducted to investigate the relationship between food insecurity and adherence to ART in Namibia. We compared the association between food insecurity and adherence and retention for adults on ART in the Namibia HIV Adherence and Retention Program (NARP).

Methods: We reviewed longitudinal data for adults 18+ (n=22,341) of whom 5,323 were currently on ART and 73% female for the period of 2015 to 2018 across 21 districts in nine regions of Namibia. Food insecurity was compared to retention, defined as those who did not miss a clinical appointment in the last six months and adherence defined as those who did not miss their HIV medication in the last seven days.

Results: Of the total adult participants, 4,057 met our criteria of being HIV+ ART clients who responded to the adherence, retention and food security questions. Of these participants 8% (n=327) were identified as failing adherence and retention. Examining this group further it was found that the severity of food insecurity made little difference to adherence and retention, of those individuals with: (1) no food insecurity 8% (n=2,801) were non-adherent; (2) moderate food insecure (n=1,116) 5% were non-adherent and severe food insecure (n=140) 12% were non-adherent.

Conclusions: The results show no strong relationship between food security levels and ART retention and adherence. Further research is needed to determine what other factors may contribute to adherence and retention in order to inform public health programs targeting improved viral suppression of ART clients.

235 The Effects of Real-Time Feedback on Antiretroviral Therapy Adherence Among Pregnant and Postpartum Women: Per Protocol Analysis of the WiseMama Uganda Randomized Controlled Trial

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Background: The Uganda WiseMama trial assessed the impact of real-time feedback on antiretroviral (ART) adherence among HIV-positive pregnant and postpartum women (PPPW). Our intent-to-treat analysis found no intervention effect on ART adherence, but trial implementation was hampered by challenges related to the wireless pill container (WPC) that delivered the intervention. We now report our findings from a per protocol (PP) analysis, focused on subjects who completed the intervention without major WPC issues.

Methods: We randomized 133 pregnant women at 12-26 weeks of gestation initiating ART at antenatal clinics in Entebbe and Mityana, Uganda. Subjects used a WPC for ART medication; intervention subjects received text reminders triggered by late dose-taking supplemented by data-informed counseling, while controls received standard care, through three months post-delivery. PP analysis included subjects completing the trial with <10% missing adherence data, which resulted mainly from depleted WPC batteries. We compared mean adherence and proportions reaching ≥95% and ≥80% thresholds.

Results: Fifty-one subjects, 22 interventions and 29 controls, met PP criteria. Sociodemographic characteristics of PP subjects were similar to those of non-PP subjects (n=82), though education was lower in the latter (51% vs. 33% had primary education, respectively; p=0.04). Characteristics were also well-balanced between PP intervention and control groups: at randomization, 41% were ≤25 years, 33% had primary education, and 27% were primaparous. Mean adherence throughout the intervention period was higher in intervention subjects (82.3% vs. 66.3%, p=0.03), as were threshold proportions: 27.3% vs. 3.5% achieved 95% (p=0.03); 77.3% vs. 41.4% achieved 80% (p=0.01). These trends were consistent across sites, though adherence was higher in Mityana.

Conclusions: While an ITT analysis found that WPC-generated real-time feedback failed to improve ART adherence among PPPW, the PP analysis findings suggest that this approach was effective for women who overcame technical issues and used electronic devices as instructed. Further research is warranted.

237 Use of Patient Empanelment to Increase Engagement and Retention in Virally Unsuppressed HIV-Positive Patients

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Background: In 2016, the Cook County Health and Hospitals System (CCHHS)/Ruth M. Rothstein CORE Center partnered with Carminati Consulting, Inc. and the Collaborative Research Unit/CCHHS to develop a data infrastructure to monitor linkage and retention in HIV care and other clinical measures. Patients were empaneled using a Microsoft application, Power BI, which is used by Clinic Team Leaders in a Patient Centered Medical Home (PCMH) to identify and develop care plans for patients with a viral load (VL) over 1,000.

Methods: The Clinic Team Leader (CTL) prepares for pre-clinic huddles using the database which is refreshed daily for every clinic session with patient information related to their VL, CD4 count, RPR, HCV and diabetes. This data is generated from the medical system's Electronic Medical Record and then transferred into Power BI. The CTL facilitates a discussion of patient's needs with a multidisciplinary team to remove barriers and improve retention to medical care.

Results: The patient empanelment is an effective communication tool that can be used by HIV Primary Care providers to improve service delivery, and enhance multi-disciplinary care team cooperation to effectively address barriers faced by PLWHA. This empanelment reduces time spent doing chart reviews and increases the time to develop a patient centered care plan. By December 2017, retention in care improved by 3% from the previous quarter from 65%–68% and 86% of the CORE Center patients were virally suppressed.

Conclusions: The utilization of patient empanelment to improve retention in care and health outcomes to PLWHA, especially amongst the most marginalized individuals is a useful tool within the PCMH model. It facilitates the identification of potential barriers and allows the multidisciplinary care teams to develop action steps which support PLWHA and improve health outcomes.

238 Improvement in HIV Medication Adherence Using a Mobile Technology Application

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Background: Medication adherence is critical in HIV antiretroviral therapy, as poor adherence can lead to treatment failure and viral resistance, with substantial cost of care implications. Change in single-tablet regimen antiretroviral adherence was evaluated in patients using the Medisafe dose reminder mobile application (app).

Methods: Patients installing the app entering a single-tablet HIV regimen between January 2, 2014 and December 31, 2017 were anonymously linked to IQVIA's longitudinal prescription claims (LRx) database. Patients with ≥ 2 prescription claims before app installation (pre-app) and ≥ 3 claims on-app (the period with active medication reminders) were selected. Adherence was measured in LRx via medication possession ratio (MPR) during the pre-app and on-app periods. Within subject pre-to-on-app MPR differences were tested using paired t-tests.

Results: Of the 150 patients installing the app, 79 patients were available for analysis of pre-to-on app MPR, with mean (SD) pre- and on-app periods of 20.6 (14.9) and 13.4 (9.1) months, respectively. Mean (SD) age was 40.6 (11.7), 86.1% were male. The mean (SD) MPR increased from 0.91 (0.19) in the pre-app period to 0.94 (0.11) during the on-app period (p=0.1152). The proportion of patients with MPR ≥ 0.80 increased from 82.3% pre-app, to 88.6% while on-app (p=0.167, McNemar's test). Of the 14 patients with pre-app MPR ≤ 0.80, 11 of them (78.6%) improved their adherence on-app more than 20%.

Conclusions: All patient types, including those well-controlled, appear to seek adherence support, and patients with sub-optimal adherence can exhibit profound improvement. On average the entire sample of HIV patients demonstrated an improvement in mean MPR from 0.91 pre-app to 0.94 on-app. More importantly, 78.6% of the patients with adherence ≤ 0.80 demonstrated MPR improvements in excess of 20%. Mobile apps can play an important role in the success of antiretroviral therapy.

239 "Messages Reminded Me to Take My Medication" – Trial Participants' Views of Behavioral Feedback Via Triggered Reminders and Data-enhanced Counseling in the Uganda WiseMama Randomized Controlled Trial

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Background: High adherence to antiretroviral therapy (ART) among pregnant and postpartum women (PPPW) is critical for both the mother's health and to prevent mother-to-child HIV transmission. The Uganda WiseMama randomized-controlled trial found that a real-time feedback intervention improved ART adherence significantly among PPPW who completed the trial and used the wireless pill containers (WPC) that delivered feedback. To better understand experiences with the WPC and intervention elements, we conducted a mixed methods study among intervention subjects.

Methods: A total of 133 pregnant women initiating ART at two hospital sites in Uganda were randomized to intervention (text message reminders triggered by missed doses, which avoided mention of HIV or illness; a monthly WPC-generated adherence report; and counseling using the reports) or control (standard care). We administered a survey to intervention subjects upon trial completion (postpartum month 3), which included quantitative and qualitative questions regarding views of and experiences with the triggered reminders, the reports, and report-informed counseling.

Results: Data were collected at a single study site; the first twenty intervention subjects completing the trial were surveyed. Mean age was 26 years; 35% had education beyond primary school; and 30% were married. 14/20 (70%) reported positive or very positive experiences with the reminders; qualitative comments included: "Reminders helped me take my medication" and "Reminders were like a trigger to my medication uptake." Only one expressed concern that reminders would disclose HIV status. Nearly all (19/20) were very or somewhat positive about the adherence reports ("The reports showed days when I missed taking my medicine."); all 19 were very or somewhat positive about report-supported counseling.

Conclusions: PPPW in Uganda who received WPC-delivered real-time feedback were generally positive about each intervention feature: triggered reminders, monthly adherence reports, and report-supported counseling. This approach holds potential for populations and settings where WPC technology is feasible.

240 Characterizing Use of Mobile Gamification Application to Support Adherence to Antiretroviral Prevention and Treatment Strategies Among Young Men in South Africa

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Background: Antiretroviral therapy (ART) has consistent efficacy data for HIV prevention and treatment. However, benefits of ART have not been seen among with suboptimal outcomes among young men including young men (YM) who have sex with men (YMSM). Concurrently, this generation has moved much of their interaction online suggesting the need for novel interventions aimed at optimizing adherence to medical interventions for youth to meet them where they are. Consequently, this study assessed a mobile gamification app (MGAP) designed to improve treatment adherence among young men living with HIV or eligible for Pre-Exposure Prophylaxis (PrEP) in peri-urban Cape Town, South Africa.

Methods: Stratified convenience sampling was used to recruit YM, ages 18–25, from the Desmond Tutu HIV Foundation sites. 51 young men including 25 YMSM on PrEP and 26 YM living with HIV and on ART participated for six weeks. The MGAP included health-related challenges and rewards, "brain games", social walls, articles, and a medication tracker. Quantitative data on usage were collected and individuals participated in semi-structured focus groups focused on implementation.

Results: MGAP usage was sustained over six weeks with 85% (44/51) of participants logging in at least once per day and spending an average of 10 minutes per day using the app. On average, there were 12.5 social wall posts per user, with all users setting up at least one medication to track and no logs of medications missed. Participants reached an average of level six and read an average of 70 articles and provided comments or questions on an average of 15 articles.

Conclusions: Addressing the needs of young men is fundamental in achieving an AIDS-free generation including in South Africa where HIV incidence among youth has been sustained. Taken together, the results suggest interest, uptake, and feasibility of gamification-based approaches to adherence to ART for prevention and treatment for young men in Cape Town.

241 The Patient Reported Outcomes as a Clinical Tool (PROACT) Pilot Study: What Can Be Gained by Sharing Mental Health and Substance Use Screening Results with Providers?

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Background: Substance use and mental health (SU/MH) disorders are insufficiently recognized and treated in HIV care. We examined whether conveying SU/MH screening results to patients and providers increased SU/MH discussions and action plans.

Methods: This pilot intervention (February 2017 through August 2017) enrolled patients from the Hopkins HIV Clinical Cohort who completed a patient-reported outcomes questionnaire before their HIV visit and screened positive on 1+ measure: moderately severe/severe depression (PHQ-8) or anxiety (GAD-7) symptoms, PTSD symptoms (Primary Care PTSD), at risk alcohol use (AUDIT-C), or drug use (ASSIST). With a research assistant, intervention patients reviewed screening results and prioritized which to discuss with their provider. Screening results + clinical recommendations were conveyed to providers through the medical record, and the provider-patient encounter was audio-recorded. The historic controls (June 2015 thorough January 2017) had positive screenings and audio-recorded encounters. Transcribed encounters were coded for outcomes: (1) any SU/MH discussion, and (2) if an action plan (referral/follow-up/medication) was made. We analyzed summary statistics and associations between the intervention and outcomes using multiple logistic regression adjusted for age, sex, race, and HIV risk factor.

Results: For the overall sample (n=70; 38 controls, 32 intervention), median age (IQR) was 52 (45, 59), 61% were male, and 81% were Black. HIV transmission risk factor was 21% MSM, 37% IDU, and 37% HET. Overall, 96.9% discussed SU/MH in the intervention compared to 76.3% in the control (P=0.014). Action plans were made for 46.9% of intervention and 13.2% of control encounters (P=0.002). The intervention was not associated significantly with SU/MH discussion (aOR=4.93, 95% CI 0.48, 50.6), but was associated significantly with developing an action plan (aOR=6.79, 95% CI 1.67, 27.58), predominantly for anxiety and alcohol.

Conclusions: Conveying screening results to patients and providers with clinical recommendations increased SU/MH action plans, warranting further research on implementing this intervention to address unmet SU/MH needs.

242 Viral Suppression Rates by Age and ART Regimen Category and Complexity at a Large Urban Safety-Net Clinic in the United States

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Background: Contemporary antiretroviral therapy (ART) offers safe, simple, and potent treatment options for people living with HIV. Youth have been identified as a key population with disparate rates of viral suppression (VS). We sought to identify whether ART regimen category or complexity was associated with improved VS across different age groups.

Methods: Age and ART regimen for each patient at the Denver Health Center for Positive Health within the past 13 months was collected. ART regimens were assigned categories: off-ART (no fills in 270 days), first-line (US DHHS Guidelines), and non-first-line. Additionally, results were analyzed as single-tablet regimen (STR) vs not and by age: ≤35, 36–55, >55 years. VS was defined as Of 1204 patients, 263 (22%) were ≤35 years, 658 (55%) were 36–55 years, and 283 (24%) were >55 years. Younger individuals ≤35 had higher rates of being off-ART compared to 35–55 and >55 years (6.1% vs 3.8% vs 1.4%, respectively, p=0.02). VS rates among those on ART were highest among those age >55 (95.3%) and lowest among those ≤35 years (83.8%), p0.05). In all categories (STR vs. not and first-line regimen vs. not) rates of VS were highest in age >55 and lowest in age ≤ 35 (all p Younger individuals were more likely to be off-ART and when receiving ART were less likely to be virally suppressed than their older counterparts. These VS results were consistent regardless of ART category or use of STR.

Conclusions: These VS results speak to the continued need to support younger people living with HIV on engagement in care and adherence to ART.

245 Challenges to Antiretroviral Therapy Adherence and Coping Strategies to Overcome Them Among Adolescents Living with HIV in Hanoi: Qualitative Investigations in the Supporting Adolescent Adherence in Vietnam (SAAV) Study

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Background: Adolescents living with HIV experience challenges maintaining high adherence to antiretroviral therapy (ART). The Supporting Adolescent Adherence in Vietnam (SAAV) study focuses on this vulnerable population. To gain insights into the challenges to and facilitators of ART adherence among adolescents, we conducted qualitative investigations with adolescents, caregivers, and HIV clinicians in Hanoi.

Methods: We employed in-depth interviews (IDIs) with 20 adolescent-caregiver dyads purposively selected to provide a range of experiences, and focus group discussions (FGDs), four with adolescents and one each with caregivers and clinicians, at the National Hospital of Pediatrics in Hanoi. IDIs and FGDs used semi-structured guides to promote open-ended responses. We queried challenges adolescents experience taking ART medications and being adherent, and facilitators and coping strategies to support adherence. Audio-recorded IDIs and FGDs were translated into English, and coded and analyzed in NVivo using a thematic approach.

Results: A total of 76 individuals participated, 40 in IDIs (20 adolescents, 20 caregivers) and 36 in FGDs. The mean age of adolescents was 13.8 years; 50% were female; all had acquired HIV perinatally. Caregivers' mean age was 48.6 years; 71% were female; 71% were a parent. Most adolescents were responsible for their medication-taking. Participants agreed that key adherence challenges for adolescents resulted from: forgetting, especially at unstructured times (evenings/weekends); medication features (taste, size, side effects); and school-related barriers, including missing school for clinic appointments and stigma. They agreed that alarm/reminder strategies were the best facilitators: adolescents stressed reminders and support from family members, including caregivers; caregivers highlighted use of alarms, noting they often were too busy to remind their children. Clinicians focused on the positive role of household-based communication and adherence support.

Conclusions: Adolescent ART patients in Hanoi face a range of ART challenges. Family-based support emerged as a critical facilitator of high adherence in this population.

247 Predicting Antiretroviral Adherence and Retention for Differentiated HIV Care Using Digital Mobile Health (WelTel Predict)

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Background: Differentiated service delivery models are emerging as an approach to improve the quality and cost-effectiveness of HIV care tailored to the most vulnerable individuals, yet clinical indicators of stability such as CD4 and viral load, are assessed infrequently and detect patients who've already begun to fail. Earlier predictors of patient stability in care offered by digital support services may enable interventions to patients while in the community between scheduled visits and may also provide reassurance regarding patients who are likely to do well. Adherence to antiretroviral treatment (ART), retention in clinical care, and viral suppression are essential markers of stability in care. WelTel is a patient-centered and interactive mobile phone intervention that demonstrated improved HIV treatment adherence and viral suppression using weekly check-in text messages (SMS) to patients and manage care. We hypothesized that patient responsiveness to SMS check-ins would differentially predict clinical adherence and retention indicators.

Methods: We tested the ability of participant's responses in the WelTel Retain (NIH#R01MH097558-01) and WelTel Kenya1 (PEPFAR PHE KE07.0045) trials to classify and predict patient stability by clinic attendance, adherence, and viral suppression, of PLWH in Kenya. We defined stably retained patients as those who attended two or more clinical visits for HIV care at least six months apart, stably adherent patients as those with >95% adherence on ART, and clinically stable patients as those with undetectable viral loads, each within a 12-month period. We assessed response rates to weekly SMS check-ins over 52 weeks of enrolment and compared between stable and unstable patients using the Mann-Whitney U-test. We also modeled response rates over time using linear regression.

Results: In total, 349 PLWH in the WelTel Retain trial were evaluated and 286 from the WelTel Kenya1 were included. Unstable patients in WelTel Retain had a median SMS response rate of 32.6% (IQR: 11.9–60.4%), significantly lower than the median response rate of 72.4% (IQR: 49.0–84.9%) among stable patients ($p<0.001$). Similarly, unstable patients by adherence in WelTel Kenya1 had a median SMS response rate of 69% versus a 33% rate among unstable patients ($P>0.001$), and 67% versus 44% by viral suppression ($p<0.001$ for the comparison). Regression coefficients in each analysis indicated that, on average, the response rate of unstable patients was lower and declined more rapidly over time, compared to stable patients.

Conclusions: Patients' texting profiles and level of responsiveness to the WelTel check-in service significantly differentiated them by key indicators of stability, offering a potential proactive way of monitoring and supporting patients. This may be a cost-effective and patient-centered method to support differentiated service models.

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