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We conducted data analysis and chart review for all patients who initiated ART on the same day. Tanzania adopted same day ART initiation (Test and Start) starting from October 2016, which accelerated access to ARV for People Living with HIV. However, the concern remains on the quality of counseling at ART initiation as a factor for long term retention in care. We report on the systematic review of routine clinical data to determine whereabouts of patients initiated on the same day from October 2016 to September 2017 in Dar es Salaam.

Method: We conducted data analysis and chart review for all patients who started ART from October 2016 to September 2017. Outcomes of interest were active on ART, defaulted, moved to another facility or lost to follow up. For outcomes other than active on ART, patient files were retrieved to verify the status. Using clinical trackers, patient, family or treatment supporter were contacted through mobile phones or traced physically to ascertain status. All outcomes were recorded on follow up case report forms and updated in the national database. Descriptive analysis was done using Excel to produce table, flow charts, bar and pie charts.

Results: Of the 43,250 patients who initiated ART on the same day, 16,932 (39%) were not active on ART a year later. About 12,365 (73%) are proposed to understand the impact of test and start on patient care and engagement in care, but there have been few large-scale assessments of the role of social support among patients living with HIV (PLWH) in the US.

Method: We administered a validated 8-item measure of perceived social support, the Multifactoral Assessment of Perceived Social Support (MAPSS), within a self-administered patient-reported outcomes assessment in English and Spanish at four US HIV clinics. We divided patients into three groups indicating levels of social support based on their MAPSS scores: Low (0 – 3 points), Medium (4 – 7 points) and High (8 points). In univariate and multivariate ordinal logistic regression models, High social support was the reference category.

Results: Among PLWH (n=708; 48% age 50+, 14% female, 71% white, 19% Spanish speaking), inadequate social support was associated with poorer engagement in care defined as 1+ missed visits in 6 consecutive months, and lower antiretroviral adherence defined as percentage of doses missed, as well as current amphetamine use, depression, anxiety, poorer quality of life, and HIV stigma (all p < 0.001); any use of either illicit amphetamines, illicit opiates, or cocaine (p < 0.001), current marijuana use (p = 0.012), smoking/vaping nicotine (p = 0.005); and condomless sex (p = 0.049). Higher social support was associated with having only one sex partner in the past three months (p = 0.008) and undetectable viral load (p = 0.031). English speakers were more likely than Spanish speakers to report lower levels of social support (p = 0.015); we observed no other demographic differences.

Conclusion: PLWH perceiving lower levels of social support are at higher risk for many modifiable health outcomes and risk behaviors, including poor engagement in care and ART adherence. Systematic assessment of social support in HIV care may help identify patients at risk for poorer outcomes who may benefit from intervention.
**2002**

**PrEP Adherence Self-Efficacy Scale Predicts Uptake, Persistence, and Adherence over 12 Months**

Sarit Golub (presenting), Kristi Gamarel

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**Background:** Effective PrEP implementation depends on improving uptake, adherence, and persistence among highest priority populations. However, aside from demographic factors—which are not amenable to intervention—little is known about key psychosocial predictors that could be integrated into assessment and intervention strategies.

**Method:** Participants (N=431; ages 18-76; 96% cis male; 46% people of color) were offered PrEP at a community health center as part of the SPARK demonstration project. Data were collected on PrEP uptake, persistence over 12-month follow-up, and adherence (measured by dried blood spots). A PrEP Adherence Self-Efficacy Scale (PrEP-ASES) was adapted from the previously validated HIV Adherence Self-Efficacy Scale (Johnson et al, 2007). Participants completed the PrEP-ASES at baseline and 3-months (for participants who started PrEP).

Construct validity was assessed using EFA followed by CFA on random, non-overlapping samples. Divergent validity was assessed through the correlation between the PrEP-ASES and related measures; predictive validity was assessed through its association with uptake, persistence, and adherence.

**Results:** EFA/CFA results indicated a single factors structure with good psychometric properties (CFI=0.98; RMSEA=.05; SRMR=.11; alpha=.95). The PrEP-ASES was related to, but distinct from, divergent measures including perceived sensitivity to medications, perceived stress, and depression (all rs between .2 and .15, all ps<.01). Among the total sample, PrEP-ASES was significantly positively associated with PrEP uptake (p<.001), Among those who started PrEP (N=300), baseline PrEP-ASES was positively associated with persistence at each visit (p<.05) and with optimal adherence (TDF>700fmol) at each visit (p<.05). PrEP-ASES scores at 3M accounted for racial disparities in PrEP adherence at 12-months.

**Conclusion:** The PrEP-ASES is a valid and reliable scale that can be used to predict PrEP outcomes in clinical settings. Uptake, adherence, and persistence interventions should focus on enhancing adherence self-efficacy.

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**2003**

**Reliability and Validity of a Brief Self-Report Adherence Measure among People Living with HIV Experiencing Homelessness and Mental Health and Substance Use Disorders**

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**Background:** The study examines the reliability and validity of a 3-item self-report adherence measure by Wilson et al. among people living with HIV (PLWH) experiencing homelessness with co-occurring substance use and mental health disorders.

**Method:** Participants were prospectively enrolled from 9 sites across the US between September 2013 and February 2016. Adherence assessments were done at baseline, 6, 12, and 18 months. Item responses were linearly transformed to a 0–100 scale. The overall score is the mean of the 3 adherence sub-items. We used Cronbach’s alpha to demonstrate internal consistency. We assessed the validity of the scale for antiretroviral therapy at each time point by comparing it with viral load (VL) lab values indicating suppression (VL < 200 copies/ml) collected within two weeks of the assessment. We constructed receiver-operating characteristic (ROC) curves pooled across time points for each adherence sub-item and the overall score.

**Results:** 336 participants (representing 431 VL lab values) were included in the final analysis: mean age 44 years, 21% female, and 50% non-Hispanic black. The average number of homeless years was 5.8. The adherence scale item mean and median scores were higher in the group that achieved VL suppression compared to the group that did not at baseline (80.6, SD=24.1 vs. 87.9, SD=35.0), 6 months (84.1, SD=19.9 vs. 66.6, SD=28.4), 12 months (88.4, SD=15.8 vs. 62.3, SD=29.5), and 18 months (80.0, SD=14.3 vs. 68.7, SD=21.1). The Cronbach’s alpha coefficients at each time point were >0.8. The c-statistic for the ROC curve was 0.77 for each adherence subitem and 0.78 (95% CI 0.73-0.83) for the overall score.

**Conclusion:** The self-report adherence measure shows good internal consistency and predictive validity that correlated with HIV VL suppression. This measure provides a time-saving, inexpensive adherence assessment tool for clinicians and researchers working with PLWH experiencing mental health, substance use disorders, and homelessness.
Evaluating Measures of Pre-ART Adherence Readiness through their Associations with ART Adherence in the Early Months of Treatment

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Background: Determining a patient’s readiness to adhere prior to the start of ART helps provides an opportunity to address adherence barriers prior to the formation of poor pill taking habits, and ultimately improve clinical outcomes and resource utilization. We examined methods of measuring adherence readiness and their relative utility in predicting early ART adherence in a sample of 176 patients preparing to start ART.

Method: We analyzed data from a randomized controlled trial of a cognitive-behavioral adherence intervention. We evaluated multiple measures of pre-ART adherence readiness (provide estimate, vitamin practice trial adherence, and self-report (HIV medication readiness scale; transtheoretical stages of change item (TSOC)) and their association with measures of (1) ART initiation, and (2) ART retention, (3) mean electronic dose-taking adherence, and (4) achievement of optimal (≥85%) dose-taking adherence over the first 3 months of ART.

Results: Of the 176 patients, 94.3% started ART; of those who started ART, 74.7% completed 3 months of ART; mean adherence over 3 months (among those still on ART) was 94.0%, and 50% obtained optimal early ART adherence. The provider estimate was the only readiness measure significantly associated with each of the 4 measures of early ART adherence, and it had the highest concordance statistics (71% positive predictive value and 62.3% negative predictive value) with optimal early ART adherence. Practice trial adherence was only associated with ART initiation and retention. Among those who were on ART at month 3, electronic dose-taking adherence was significantly correlated with the provider estimate and the two self-reports.

Conclusion: Each method of early treatment adherence has its own utility, but the provider estimate had the best overall performance in predicting early ART adherence.

Can Self-Reported Adherence Predict ART Adherence Assessed by an Electronic Monitoring Device (Wisepill) in Resource-Constrained Settings in Cape Town, South Africa?

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Background: ART adherence is a dynamic process with recent ART-initiators at risk for poor adherence. Having an easy to use predictor of long-term adherence is critical for ongoing care in resource-constrained clinical settings.

Method: We examined longitudinal patterns of ART adherence over 12-months using group-based trajectory modeling and continuous measurement of ART adherence by Wisepill among 108 adults enrolled in an ART adherence study in Cape Town, South Africa. Participants had a history of ART adherence problems, but were on ART for 4–24 months and virally suppressed (VL<50 copies/ml) at enrollment. Participants self-reported three validated adherence questions at enrollment and used Wisepill devices for the next 12 months. Participants were Wisepill adherent for a given month if device openings divided by prescribed doses was ≥80%. We examined associations between past 30-day self-reported ART adherence and 12-month Wisepill adherence trajectories.

Results: We identified three trajectories of Wisepill adherence: consistently high (43%), steadily decreasing (25%), and consistently low (32%). Baseline self-reported adherence was significantly associated with Wisepill adherence trajectories. Each day missing ≥1 dose increased odds of being in the low vs. high adherence trajectory (OR: 1.64, 95% CI: 1.11, 2.41), while reporting “doing a very good job” (OR: 0.32, 95% CI: 0.13, 0.79) and “almost always” taking HIV medicines as prescribed (OR: 0.33, 95% CI: 0.13, 0.86) decreased odds.

Conclusion: Despite being virally suppressed at enrollment, more than half of adults had a consistently low/declining ART adherence trajectory, highlighting an urgent need for greater ART adherence support in this at-risk population. Self-reported screening for past 30-day adherence problems is a low-cost but effective strategy for identifying patients at risk for poor future adherence.
2006 'I May Find It Difficult to Take It': Qualitative Study of Anticipated Barriers to PrEP Use in Ugandan Most-At-Risk Populations

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Background: In Uganda, PrEP scale-up began with serodiscordant couples but has since expanded to include other high-risk populations. We used qualitative methods to explore potential barriers to PrEP use and adherence in Ugandan female sex workers (FSWs), fisher folk (FF), men who have sex with men (MSM), and serodiscordant couples (SDCs).

Method: A purposefully selected sample of 60 potential PrEP users took part in a single in-depth interview. Interview topics included: (1) PrEP knowledge, (2) risk behaviors and perception, (3) interest in taking PrEP in the future and (4) barriers to future PrEP use. Interviews were transcribed and later content analyzed to construct descriptive categories. Data were coded using Dedoose software.

Results: Knowledge about PrEP varied across groups. Participants expressed interest in taking PrEP to prevent HIV overall. Reasons for their interest included: (1) sexual activity with multiple partners, (2) uncertainty about partners’ sexual behavior or HIV status, and (3) previous negative experiences using condoms. Despite their interest, interviewees were concerned about PrEP’s efficacy and where/how they would access the drug if distribution was limited to distant government hospitals. They anticipated challenges in taking doses daily and in determining periods when the medication should be used. Concerns that PrEP use would result in disclosure of sexual practices and orientation or being misidentified as HIV-positive were also cited.

Conclusion: For PrEP scale-up to succeed, it will be important to alleviate the concerns of potential PrEP users. Providing PrEP locally in communities and outside of government facilities may help overcome concerns about PrEP access. Expanding sensitization campaigns and/or PrEP counseling may address prospective users’ fears about taking PrEP. Overall, concerns about using PrEP expressed by individuals in these groups do not appear to differ substantially from those previously described for other populations.

2007 Fertility Desires among PrEP Users and Non-Users in the Nigeria Demonstration Project: A Qualitative Perspective

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Background: HIV Pre-Exposure Prophylaxis (PrEP) substantially reduces the risk of HIV acquisition by uninfected partners in serodiscordant relationships. We qualitatively assessed the fertility desires among negative partners of enrolled heterosexual serodiscordant couples who use PrEP and those who were willing, but ineligible for PrEP in the Nigeria PrEP Demonstration Project.

Method: Three health facilities participating in the PrEP project in Nigeria served as study sites. Interviews were conducted with 20 HIV seronegative PrEP users, and 14 non-users. Also, 6 focus groups were held with heterosexual male and female PrEP users and 3 joint couples. Interview questions sought information on their reasons for being interested in PrEP, fertility desires, and prevention strategies adopted since knowing about serodiscordancy. Inductive content analysis identifying repeated themes arising from individual and group responses were summarized and assigned to descriptive categories using a coding matrix.

Results: Seronegative partners were willing to access PrEP to prevent HIV infection from infected HIV sex partners to stay HIV negative. Some perceived PrEP use as “making a sacrifice to please HIV positive spouse,” while most users and non-user participants were interested in preventing HIV while desiring to have children. Many participants had no history of condom use prior to enrollment in PrEP study but now use condoms. However, there were concerns raised about the use of condoms in view of their desires for having children.

Conclusion: Couple counseling for HIV serodiscordant clients who require PrEP and have pregnancy intentions will be needed so they can be correctly instructed on the need for condom use and the importance of viral suppression to reduce risk for HIV infection when planning pregnancy.
2008 'I Wasn't Doing It for the Incentive, I Was Doing It for Myself': Qualitative Findings from a Multi-Faceted PrEP Adherence Support Intervention for Adolescent Girls and Young Women in South Africa

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Background: Oral PrEP adherence among young African women in two clinical trials was too low to observe efficacy. The PlusPills demonstration project among South African adolescents found higher adherence levels which decreased over time. The need to increase adolescent demand for and adherence to PrEP guided the 3P’s for Prevention Study.

Method: 200 adolescent girls and young women (AGYW) aged 16-25 from a Cape Town township were enrolled. Participants were counselled 7 times over 12 months using a structured counselling guide that included feedback on early FTC/TDF dried blood spot levels. A purposive subset of 21 participants completed three serial qualitative interviews at months 1, 3, and 12. A rapid analysis of 48 transcripts explored adherence factors and intervention feedback.

Results: PrEP pill-taking was aided by household support, concern about partner fidelity and adherence problem-solving with youth-friendly providers. AGYW reported that phone reminders, anchoring pill-taking with daily activities, calendars, peer support groups, environmental cues, carrying a backup, and adjusting routines to take PrEP before using alcohol also supported adherence. Drug level feedback was appreciated for providing an adherence measure with which to track progress. Some expressed frustration when results didn’t match expectations (one subsequently discontinued PrEP), but many reported greater motivation to reach "the high level" and pride when levels increased. While a handful were explicitly motivated by the financial incentive, most said "it made no difference" to their adherence. Initial interest in PrEP didn’t translate into persistence over 12 months due to waning motivation, less frequent appointments, greater relationship trust, low family support and competing priorities.

Conclusion: Providing AGYW with practical strategies for remembering PrEP and building support networks and counselling about drug levels supported initial habit formation and PrEP adherence. Supporting PrEP persistence among AGYW may require additional strategies.

2009 Experiences of Pre-Exposure Prophylaxis (PrEP) Stigma among Black and Latino Men who have Sex with Men in Los Angeles

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Background: The HIV epidemic in the United States disproportionately affects Black and Latino men who have sex with men (BLMSM). Pre-Exposure Prophylaxis (PrEP) is a proven efficacious biomedical prevention strategy with the potential to reduce significantly the rate of new HIV infections in these populations. However, the social stigma attached to PrEP and those who use it may act as a barrier to the uptake and persistence of PrEP among at-risk BLMSM.

Method: In-depth, semi-structured interviews were conducted with 55 BLMSM PrEP users living in Los Angeles, California to explore experiences of anticipated, enacted, and internalized PrEP stigma. A thematic analysis approach was used in the analysis of qualitative data.

Results: Five major themes related to PrEP stigma were identified: (1) Perception that PrEP users engage in high-risk sexual behaviors; (2) Conflicts in relationships attributed to PrEP use; (3) Experiences of discomfort, homophobia, or judgment from medical providers; (4) Perception that PrEP users are HIV-positive; and (5) Gay stigma related to PrEP disclosure to family. Latino MSM also reported generational differences in attitudes toward HIV prevention. Manifestations of PrEP stigma included disapproving judgment, negative labeling, rejection, and devaluing individuals who are using PrEP.

Conclusion: PrEP stigma typically occurs within the context of PrEP disclosure. Efforts are needed to deconstruct existing negative perceptions and to promote a more positive social view of PrEP and those who use it for prevention. There is also a need to address the intersection of PrEP HIV, and gay stigma within Black and Latino communities to facilitate PrEP uptake and persistence among BLMSM.

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Background: Non-U.S.-born (NUB) persons with diagnosed HIV are more likely to be prescribed antiretroviral therapy (ART), retained in care, and virally suppressed compared with US-born (UB) persons. However, these outcomes have not been examined among Hispanics/Latinos.

Method: Using data from the Medical Monitoring Project, which produces population-based estimates of characteristics and care outcomes among US adults with diagnosed HIV, we compared HIV care outcomes among NUB and UB Hispanics/Latinos. Persons born in the United States and its six dependencies were categorized as UB and those born elsewhere as NUB. Retention in care was defined as >2 HIV care visits at least 90 days apart in the past year, and viral suppression was defined as HIV RNA <200 copies/mL or undetectable. We analyzed weighted interview and medical record data collected during 6/2015-5/2017 from 1618 Hispanics/Latinos with diagnosed HIV and used Rao-Scott χ² tests to assess differences between groups (significant if p<0.05).

Results: Among Hispanics/Latinos with diagnosed HIV, 37.0% were NUB. A higher proportion of NUB Hispanics/Latinos had less than a high school education (35.9% vs. 22.2%) and had Ryan White HIV/AIDS Program (RWHAP) coverage (59.5% vs. 40.4%). Fewer NUB Hispanics/Latinos used non-injection drugs (15.3% vs. 29.8%) or had depression (17.4% vs. 25.5%) or anxiety (11.6% vs. 21.1%) in the past 2 weeks. No significant differences were observed in gender, poverty, homelessness, or incarceration. There were no significant differences between NUB and UB Hispanics/Latinos in ART prescription (90.1% vs. 85.7%), retention in HIV care (86% vs. 85.3%), viral suppression at last test (76.6% vs. 72.9%), and viral suppression at all tests in the past 12 months (70.4% vs. 64.3%).

Conclusion: The lack of HIV-related disparities between UB and NUB Hispanics/Latinos may in part be attributable to lower drug use, less anxiety, and greater reliance on the RWHAP as a safety net among NUB Hispanics/Latinos.

2011 Syndemic Factors and Patient-Provider Relationship, Self-Efficacy, Pharmacy Pickups, and Viral Load among Patients in Argentina not Retained in HIV Care

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Background: Syndemics are combinations of factors, such as psychosocioeconomic factors, interacting with a health condition to negatively impact health outcomes. Syndemics may also negatively impact elements underlying retention in care, such as health behaviors. This study examined the impact of syndemic factors on patient-provider relationship, self-efficacy, pharmacy pickups, and viral load in HIV-infected patients in Argentina not retained in care.

Method: Participants (N=360) were HIV-infected patients being re-engaged in care. Based on previous research, a syndemic condition score (0-5) was created, consisting of less than secondary education, clinically significant depressive symptoms, drug abuse, alcohol abuse, and lifetime history of psychotic symptoms. The syndemic score was used to predict patient-provider relationship quality, self-efficacy, pharmacy pickups, and viral load.

Results: Thirty-eight percent of participants had less than secondary education, 28% had clinically significant depressive symptoms, 10% drug abuse, 23% alcohol abuse, and 16% a history of psychotic symptoms. Predictive regressions were conducted controlling for employment, age, and gender. Syndemic factors predicted patient-provider relationship quality (b = -0.15, SE = 0.05, p = 0.002) and pharmacy pickups (b = 0.56, SE = 0.28, p = 0.049). A one-point increase in syndemic factors was associated with a 0.15 standard deviation decrease in patient-provider relationship quality and a 74% increased likelihood of missing pharmacy pickups. Syndemic factors were not associated with self-efficacy (b = -0.06, SE = 0.05, p = 0.227) or log viral load (b = -0.1, SE = 0.04, p = 0.815).

Conclusion: This model illustrates the impact of syndemic conditions on elements underlying retention in care. Further research should examine the etiology of these relationships (e.g., the influence of infrastructure on health behavior, the influence of provider perceptions and behaviors on patient-provider relationship quality) and interventions to reduce these disparities.

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2012 HIV Disclosure, Retention, and Virologic Suppression Among New-to-HIV-Care Cohort

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Background: HIV disclosure has been understudied among patients living with HIV (PLWH), particularly among new to HIV care patients who face unique challenges adjusting to a new diagnosis. We analyzed IENGAGE new to HIV care participants to evaluate factors associated with HIV disclosure status and its impact on retention in care (RIC) and viral load suppression (VLS).

Method: HIV disclosure was dichotomized (yes/no) and categorized as any, selective and broad disclosure. VLS was defined as <200 copies/ml. Time to VLS was defined as days from randomization to first VLS. RIC was measured using visit adherence (100% vs. not) and 4-month visit constancy (scores: 0%, 33%, 67% and 100%). Regression and Cox models were used as appropriate.

Results: Among 371 participants (age 37 (±12) years, 79% males, 62% Black), 78% disclosed their HIV status at enrollment, 63% were broad disclosers and 15% were selective disclosers. Among disclosed participants, 79% achieved 48-week VLS, 80% achieved 100% visit adherence and 77% had 100% 4-month visit constancy. Black race, emotional support, and unmet needs were associated with any HIV (OR = 0.28; 95%CI = 0.13, 0.58; OR = 1.62; 95%CI = 1.39, 1.89; OR = 2.07; 95%CI = 1.05, 4.07 respectively) and broad disclosure (OR = 0.23; 95%CI = 0.10, 0.53; OR = 1.75; 95%CI = 1.45, 2.12; OR = 2.47; 95%CI = 1.12, 5.51 respectively). HIV disclosure did not improve RIC (visit adherence (OR = 1.12; 95%CI = 0.50, 2.55); 4-month constancy (OR = 0.85; 95%CI = 0.47, 1.53) and 48-week VLS (OR = 0.97; 95%CI = 0.28, 3.39).

Conclusion: Interventions to promote early HIV disclosure should focus on coping strategies and unmet needs. Notably, baseline disclosure was not associated with 48-week RIC and VS. However, we note traditional measures of disclosure fail to capture granularity regarding intimacy and social network connectedness, an area for future investigation.

Table 1. Models Representing Association of any HIV Disclosure and Patterns of HIV Disclosure with 48-Week Viral Load (VL) Suppression, Time to VL Suppression, Visit Adherence, and 4-Month Visit Constancy

<table>
<thead>
<tr>
<th>UNADJUSTED MODELS</th>
<th>48-week VL suppression OR (95%CI) p-value</th>
<th>Time to VL suppression HR (95%CI) p-value</th>
<th>Visit adherence OR (95%CI) p-value</th>
<th>4-month visit constancy OR (95%CI) p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any HIV disclosure vs. Non-disclosure</td>
<td>1.15 (0.54, 2.48) 0.96</td>
<td>1.05 (0.80, 1.39) 0.72</td>
<td>1.17 (0.71, 1.93) 0.54</td>
<td>0.91 (0.57, 1.45) 0.68</td>
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<tr>
<td>Patterns of disclosure</td>
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<tr>
<td>Selective disclosure vs. Non-disclosure</td>
<td>0.89 (0.31, 2.56) 0.83</td>
<td>1.21 (0.82, 1.78) 0.34</td>
<td>1.28 (0.64, 2.58) 0.49</td>
<td>0.70 (0.37, 1.34) 0.28</td>
</tr>
<tr>
<td>Broad disclosure vs. Non-disclosure</td>
<td>1.22 (0.55, 2.68) 0.63</td>
<td>1.03 (0.77, 1.36) 0.87</td>
<td>1.14 (0.68, 1.91) 0.61</td>
<td>0.98 (0.60, 1.58) 0.92</td>
</tr>
<tr>
<td>ADJUSTED MODELS</td>
<td>48-week VL suppression OR (95%CI) p-value</td>
<td>Time to VL suppression HR (95%CI) p-value</td>
<td>Visit adherence OR (95%CI) p-value</td>
<td>4-month visit constancy OR (95%CI) p-value</td>
</tr>
<tr>
<td>Any HIV disclosure vs. Non-disclosure</td>
<td>0.97 (0.28, 3.39) 0.96</td>
<td>0.66 (0.46, 0.96) 0.03</td>
<td>1.12 (0.50, 2.55) 0.78</td>
<td>0.85 (0.47, 1.53) 0.76</td>
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<tr>
<td>Patterns of disclosure</td>
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<tr>
<td>Selective disclosure vs. Non-disclosure</td>
<td>1.28 (0.20, 7.85) 0.80</td>
<td>0.82 (0.49, 1.37) 0.45</td>
<td>1.85 (0.57, 6.02) 0.30</td>
<td>0.65 (0.30, 1.42) 0.28</td>
</tr>
<tr>
<td>Broad disclosure vs. Non-disclosure</td>
<td>0.92 (0.26, 3.30) 0.90</td>
<td>0.64 (0.44, 0.93) 0.02</td>
<td>0.96 (0.42, 2.22) 0.93</td>
<td>0.92 (0.50, 1.69) 0.78</td>
</tr>
</tbody>
</table>

OR = odds ratio; CI = confidence interval; HR = hazards ratio
1. Logistic regression model adjusted for socio-demographic factors (age, gender, race, insurance) + HIV related and sexual risk factors (ART use, baseline CD4 count, transmission risk, substance use) + psychosocial and other factors (active coping and acceptance, social support score, HIV related self-efficacy score, supportive services for housing and site)
2. Cox Proportional Hazards Model adjusted for socio-demographic factors (age, gender, race, ethnicity, insurance) + HIV related and sexual risk factors (ART use, baseline CD4 count, transmission risk, substance use, number of sexual partners) + psychosocial and other factors (religion and acceptance, supportive services for housing expenditure, quality of life indicators for pain and mobility, enacted stigma, anticipated stigma from friends and site)
3. Logistic regression model adjusted for socio-demographic factors (age, gender, race, insurance) + HIV related and sexual risk factors (ART use, baseline CD4, substance use, transmission risk) + psychosocial and other risk factors (active coping, positive reframing, social support score, supportive service for housing expenditure, stigma associated with disclosure concerns, quality of life measures –pain, anxiety/ depression, stigma and site)
4. Ordinal Logistic Regression Model adjusted for socio-demographic factors (age, gender, race, insurance (Yes/No) + HIV related and sexual risk factors (baseline CD4 count, substance use, transmission risk, sexual behavior) + psychosocial and other risk factors (supportive services for housing expenditure, stigma associated with disclosure concerns and site)
2013

Raising the Bar: CrescentCare’s Immediate ART Continuum of Care

Jason Halperin (presenting)¹, Katherine Conner¹, Isolde Butler¹, Pu Zeng¹, Pamela Holm¹, Nicholas Van Sickels¹

¹ CrescentCare, New Orleans, LA, USA

**Background:** Rapid ART is now recommended by the IAS-USA guidelines committee, but the DHHS guidelines committee continue to term this approach “investigational” due to a lack of long-term data in the US. CrescentCare is a Federally Qualified Health Center (FQHC) that partnered with the New Orleans Office of Health Policy to implement an immediate linkage and same-day antiretroviral treatment (ART) program in December 2016. We present our continuum of care for patients linked and started on ART within 72-hours of diagnosis from December 2016 through August 2018.

**Method:** Patients were enrolled from 12/2016 through 2/2018. Labs and provider visits were reviewed through 8/2018. Retention in care was defined as two provider visits within the past 12-months separated by at least three months. Viral suppression was defined as the most recent viral load <200 c/mL and obtained within the last 6-months of the study period. The Louisiana state surveillance system was used to ascertain viral suppression for any inactive clients. An intention-to-treat analysis was used for retention. Clients who were inactive in our system but found to be suppressed at another facility were not considered retained in this analysis.

**Results:** 130 patients were referred for immediate ART between December 1st, 2016 and February 28th, 2018. 126/130 (97%) were linked within 72 hours of diagnosis and received same-day ART. 75% identified as male, 20% as female and 5% trans-female. 64% identified as African-American, 30% as White and 6% Latino/a/x. 117/126 (93%) met criteria for retention. 113/126 (90%) were virally suppressed within the last six months.

**Conclusion:** This is the first longitudinal continuum of care for an immediate ART start initiative in the United States. This test-and-start strategy at a FQHC in New Orleans shows persistent virologic suppression with high rates of retention and surpasses the goals of 90% linked and 90% virally suppressed. Interventions that harness the power of virologic suppression to end the epidemic are urgently needed, especially in high prevalence areas such as the Southern United States. The success of this intervention demonstrates that community-based clinics can implement Rapid ART.

2014

The New Standard of Care: Results of a Same-Day Start HIV Treatment Model

Lyndon VanderZanden (presenting)¹

¹ Howard Brown Health, Chicago, IL, USA

**Background:** DHHS and WHO recommend initiating HIV treatment immediately upon diagnosis, with WHO strongly recommending initiation same day; however, barriers like stigma, cost, and complex healthcare systems often delay treatment, causing further immune system damage, increased risk of transmission, and losses along the care continuum. This session explores an innovative rapid start model offering ART initiation the day of diagnosis at Howard Brown Health, a network of clinic in Chicago primarily serving LGBTQ communities. Benefits of the model, challenges and facilitators, and implications of findings will be discussed to provide participants insights into developing their own models.

**Method:** The multidisciplinary linkage model, involving walk-in testing, linkage to care, and primary care teams, facilitates testing, diagnosis, affirming post-test counseling, and ART initiation in one visit. Patients follow up one-week post-ART initiation, then every four weeks until virally suppressed, after which they return every three months. Linkage to care staff provide ongoing psycho-social-economic support throughout.

**Results:** Since implementation in January 2018, Howard Brown Health saw 234 newly diagnosed patients. Most patients chose rapid ART (n=191), compared to delayed treatment (n=43), and started in an average of 3.3 days compared to 32.9 days, respectively. Among patients 90 days post-diagnosis, 86.7% (111/128) of rapid patients achieved viral suppression, compared to 67.7% (21/31) of delayed treatment patients. Rapid patients achieved suppression an average of 33 days faster than delayed treatment patients (58.9 vs 91.9 days).

**Conclusion:** Findings demonstrate the model’s high favorability, effectiveness, and feasibility in community health settings, indicating profound implications for treatment and treatment as prevention. Future efforts will investigate experiences of newly diagnosed individuals who initiated rapid ART and those who delayed to better understand the individual impact of and barriers to the model.
Data for Care: Enhanced Personal Contact for Retention in HIV Care

Maira Sohail (presenting), Dustin Long, Emily Levitan, Aadia Rana, Jeremiah Rastegar, Harriette Pickens, David Batey, Kelly Ross-Davis, Kathy Gaddis, Michael Mugavero

1 University of Alabama at Birmingham, Birmingham, AL, USA
2 University of Alabama at Birmingham School of Medicine, Infectious Disease RISC, Birmingham, AL, USA

Background: Retention in care is a key component of efforts to end the HIV epidemic and represents the greatest gap in the care continuum in the US. Enhanced personal contact (EPC) interventions have improved retention and reduced missed visits (MV) in clinical trials.

Method: A pilot EPC program, Data for Care Alabama (D4CAL), incorporating aspects of evidence-based interventions was implemented at four of 22 HIV primary care clinics in a Deep South, academically-affiliated HIV clinic. Patients were stratified into low (0 MV in the prior 12 months), intermediate (1-2 MVs) and high (≥3 MVs) risk groups. For the 4 intervention clinics, everyone received follow-up calls within 2 days of missed appointment. Intermediate and high-risk groups also received personal reminder calls 6-8 and 1-3 days before their next scheduled appointment. EPC calls were made by linkage and retention coordinators and/or social workers who had established relationships with patients. Modified Poisson regression was used to examine changes in MVs between pre and post pilot intervention launch during the same calendar period (April-December 2017 versus April-December 2018).

Results: MVs dropped from 31% to 16% in the high-risk group, 27% to 12% in the intermediate-risk group, and 12% to 7% in the low-risk group in the Pre versus Post periods. We observed a 45% reduction in risk of MVs (0.55, 95% CI (0.43, 0.71) within the intervention clinics, whereas the non-intervention clinics had a 43% reduction (0.58, 95% CI (0.53, 0.63)).

Conclusion: The D4CAL pilot demonstrated reductions in MVs, with high risk persons showing greatest improvement. Significant decreases in MVs were observed clinic-wide. These findings provide initial evidence to support broader roll-out of D4CAL to more rigorously evaluate effectiveness of this intervention.
Cycles of Life in the 2018 HIV Care Cascade: A Real-Life Study in Brazil

Ana Pascom (presenting), Vivian Avelino-Silva, Rosana Pinho, Fernanda Fernandes, Filipe Perini, Alexandre Ferreira, Alexisana Tresse, Fernanda Rick, Gerson Pereira, Adele Benzaken

1 Ministry of Health of Brazil, Brasília, Brazil
2 São Paulo University, São Paulo, Brazil

Background: Age has been associated with better antiretroviral therapy (ART) outcomes in different contexts; however, the effect of age is unlikely to be linear across cycles of life. This study aims to describe the 2018 HIV care cascade in Brazil by age, and to discuss its potential determinants.

Method: All people living with HIV (PLHIV) registered in one of the national surveillance systems were included in this analysis. Data from the 2018 HIV care cascade across nine age categories were estimated from diagnosis to viral suppression (VS), as described in Table 1.

Results: Children aged 2-4yo presented the lowest proportions of retention, treatment and VS (only 28% presented VS). Among those below 12 years old, progressive improvement was observed across cascade stages. Among adolescents (13-17yo), an important decrease in linkage, retention, treatment and VS was observed. In contrast, all parameters improved with age from 18yo. The highest proportions of VS (80%) occurred among PLHIV over 60 years old.

Conclusion: Our findings emphasize challenges concerning HIV care among children and adolescents. Factors that may be associated to cascade performance are dependency on caregivers and other social determinants. However, improvements in the cascade across age categories below 13 years old may reflect greater availability and better formulation of ART regimens with age, as well as survival bias. Among adolescents, marked decrease in linkage, retention, ART use and VS may be attributed to psychosocial factors including initiation of self-care and sexual activity, and revelation of HIV diagnosis – all contributing to stigma. Higher retention rates among PLHIV over age 60 can be attributed to frequency of visits to health services for other reasons. Idiosyncrasies in the care continuum for different age categories reinforce the need for public health strategies that are tailored to each cycle of life.

Table 1: HIV care cascade by age group in Brazil, 2018

<table>
<thead>
<tr>
<th>Age group</th>
<th>Diagnosed(^1) (N)</th>
<th>Linked(^2) (%)</th>
<th>Retained(^3) (%)</th>
<th>On ART(^4) (%)</th>
<th>VS(^5) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4</td>
<td>2,209</td>
<td>86.9</td>
<td>50.1</td>
<td>39.1</td>
<td>28.4</td>
</tr>
<tr>
<td>5-8</td>
<td>2,384</td>
<td>90.8</td>
<td>74.0</td>
<td>62.1</td>
<td>49.4</td>
</tr>
<tr>
<td>9-12</td>
<td>2,496</td>
<td>94.0</td>
<td>80.0</td>
<td>69.1</td>
<td>57.3</td>
</tr>
<tr>
<td>13-17</td>
<td>6,324</td>
<td>80.4</td>
<td>66.1</td>
<td>57.0</td>
<td>48.1</td>
</tr>
<tr>
<td>18-24</td>
<td>61,085</td>
<td>79.0</td>
<td>64.5</td>
<td>58.8</td>
<td>53.4</td>
</tr>
<tr>
<td>25-39</td>
<td>297,129</td>
<td>87.7</td>
<td>76.2</td>
<td>70.3</td>
<td>64.8</td>
</tr>
<tr>
<td>40-49</td>
<td>204,892</td>
<td>92.5</td>
<td>83.1</td>
<td>77.6</td>
<td>72.3</td>
</tr>
<tr>
<td>50-59</td>
<td>149,549</td>
<td>94.8</td>
<td>87.0</td>
<td>81.4</td>
<td>77.5</td>
</tr>
<tr>
<td>60+</td>
<td>72,984</td>
<td>95.8</td>
<td>88.1</td>
<td>82.2</td>
<td>79.7</td>
</tr>
</tbody>
</table>

Notes:
1. Diagnosed: all PLHIV who were registered in one of the national surveillance systems;
2. Linked: PLHIV who had at least one viral load (VL) or T-CD4 performed or at least one antiretroviral (ARV) prescription;
3. Retained: PLHIV who performed at least two VL or T-CD4 or were on ART;
4. On ART: had ARV prescription in last 100 days of 2018; and
5. VS: PLHIV on ART for at least six months, with last VL<1,000cp/mL.
**2017 Using Individualized Provider Feedback to Improve HIV Screening in a High-Volume Emergency Department**

Jason Zucker (presenting)1, Fereshteh Sani2, Kenneth Ruperto3, Jacek Slowkowski2, Lawrence Purpura2, Aaron Schluger2, Susan Olender1, Matthew Scherer3, Peter Gordon1

1 Columbia University, Division of Infectious Diseases, New York, NY, USA
2 Columbia University Irving Medical Center, New York, NY, USA
3 New York Presbyterian Hospital, New York, NY, USA

**Background:** All models to end the HIV epidemic rely on strategies to identify people living with HIV (PLWH), encourage sustained care engagement, and promote universal antiretroviral therapy to achieve viral load suppression. HIV testing is the critical first step as it provides entry for both HIV care and HIV prevention services. Busy urban Emergency Rooms are uniquely suited for HIV screening programs but numerous barriers to effective program implementation exist. We describe an emergency room physician champion model that utilizes feedback intervention theory (FIT) to providers to increase HIV screening rates.

**Method:** In September of 2018, our physician champion provided an educational session to ED providers about the importance of HIV screening and the proposed study. From September to December 2018, providers received a monthly e-mail from the ED champion and an automated text message with their individual and peer HIV screening rates. Number and rate of HIV testing performed in the ED were compared to HIV testing performed in the inpatient and outpatient setting where feedback was not provided.

**Results:** On average ED providers evaluated approximately 14,000 patients per month. In the 6 months prior to the intervention, 37.8% of patients had documented HIV screening in the prior 6 years, as compared to 39.5% of patients at the end of December. D HIV testing increased 107% from an average of 451 tests per month in the 6 months prior to the intervention to 931 tests sent in December. This was compared with an 18% increase in inpatient screening and a 16% decrease in outpatient screening during the same time-period.

**Conclusion:** Individualized provider feedback paired with an ED physician champion can lead to an immediate increase in HIV testing. Ongoing studies will determine if this intervention can lead to long term behavior change.

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**2018 Validation of an Electronic Algorithm to Identify Cis-Gender Female PrEP Candidates**

Jessica Ridgway (presenting)1, Eleanor Friedman1, Alvie Bender1, Lisa Hirschhorn1, Michael Cronin2, Rachel Goins2, LeChae Mottley3, Susan Olender1, Matthew Scherer3, Peter Gordon1

1 University of Chicago, Chicago, IL, USA
2 Northwestern University, Chicago, IL, USA

**Background:** We previously developed and implemented an electronic medical record (EMR)-based algorithm to identify candidates for PrEP in the emergency department (ED). The algorithm includes the following EMR data elements: age, sex, gender of sexual partner, chief complaint, and prior test results for gonorrhea, syphilis, and chlamydia. The purpose of this study was to evaluate the performance characteristics of the algorithm for identifying cis-gender female PrEP candidates based on CDC guidelines.

**Method:** The electronic algorithm was validated both retrospectively and prospectively. To retrospectively validate the algorithm, we identified women diagnosed with HIV in the ED of an urban academic medical center between January 1, 2011, and April 30, 2018. We retrospectively calculated the algorithm output associated with the ED visit. To prospectively validate the algorithm, we surveyed cisgender women seeking care in the ED between May 7, 2018 and August 31, 2018 regarding behavioral risks for HIV. We prospectively determined if the electronic algorithm identified them as PrEP candidates.

**Results:** In the retrospective evaluation, 13.6% (3/22) of women diagnosed with HIV in the ED were identified as PrEP candidates by the algorithm. In the prospective validation, 24% (59/245) of women who completed the survey were PrEP candidates based on survey answers. 6% (14/245) were identified as possible PrEP candidates based on the algorithm. The performance characteristics of the algorithm for identifying cis-gender female PrEP candidates were as follows: sensitivity 10.2%, specificity 95.7%, positive predictive value 43%, negative predictive value 77%.

**Conclusion:** An electronic algorithm to identify PrEP candidates in the ED has low sensitivity but high specificity for identifying PrEP-eligible cisgender women. More research is needed to identify additional EMR data elements that can improve algorithm sensitivity for identifying PrEP-eligible women.
2019 A Novel Combination Contingency Management and Peer Health Navigation Intervention for Advancing Transgender Women of Color Living with HIV along the HIV Care Continuum

Cathy Reback (presenting), Kimberly Kisler, Jesse Fletcher

1 Friends Research Institute, Los Angeles, CA, USA

Background: HIV prevalence among trans women is estimated to be ~50 times that of non-trans adults, yet trans women living with HIV exhibit low rates of linkage-to, and retention-in, HIV care. The Alexis Project combines an innovative application of Contingency Management (CM) and Peer Health Navigation (PHN) to improve advancement along the HIV care continuum, including viral load suppression, among trans women of color.

Method: Between February 2014 and August 2016, 139 HIV-positive trans women of color enrolled who had either 1) never been in HIV care; 2) dropped out of HIV care; or, 3) were ART non-adherent. During the 18-month intervention, participants could attend an unlimited amount of PHN sessions and earned CM points for confirmed linkage to HIV care, retention in HIV care, and reaching and sustaining HIV milestones. Assessments (CASI) were administered at baseline, 6-, 12-, 18-, 24-, 30-, and 36-months post-enrollment.

Results: Most participants identified as Hispanic/Latina (38%) or African American/black (37%); the mean age was 35.8 (SD=9.5). At baseline, 8% were unaware of their HIV-positive status; 24% had never been in HIV care; or, 3) were ART non-adherent. During the 18-month intervention, participants could attend an unlimited amount of PHN sessions and earned CM points for confirmed linkage to HIV care, retention in HIV care, and reaching and sustaining HIV milestones. Assessments (CASI) were administered at baseline, 6-, 12-, 18-, 24-, 30-, and 36-months post-enrollment.

Conclusion: Findings demonstrate that The Alexis Project was both feasible and acceptable among the participants, and the combined CM/PHN intervention proved successful in promoting HIV milestones associated with advancement along the HIV care continuum.

2020 Leveraging Text Messaging to Promote Advancement along the HIV Care Continuum among Young Adult Transgender Women Living with HIV

Cathy Reback (presenting), Dennis Ruenger

1 Friends Research Institute, Los Angeles, CA, USA

Background: Young trans women experience a number of psychosocial challenges that are barriers to linkage and retention in HIV care and ART adherence. Due to these challenges a text-messaging intervention is a particularly salient method for engaging and retaining young trans women in HIV care.

Method: From December 2016 to May 2018, 130 trans women, aged 18-34, enrolled and received 270 theory-based text messages over 90 days (3 messages/day). Text-message content was scripted along the HIV Care Continuum (HIV positivity/physical and emotional health, linkage/retention in care, ART adherence/viral load suppression) and based on three behavioral change theories (Social Support Theory, Social Cognitive Theory, Health Belief Model).

Results: Most (89%) were trans women of color (Hispanic/Latina 43%, African-American/Black 38%, multi-racial/other 8%). The mean age was 29.5 years (SD=3.8), 41% had less than a high school diploma/GED. The median income in the last month was $495 (IQR $200–$902). Housing instability was experienced by 44% during the past 6 months. 91% of the participants completed a 6-month follow-up evaluation. From baseline to 6-month follow-up, the proportion of participants who were currently taking ART increased from 48% to 67% ($\chi^2(1)=8.8$, $p=.003$). Of those who reported ART uptake, 5% described their medication adherence as “excellent” at baseline and 33% at 6-month follow-up ($\chi^2(1)=17.4$, $p<.001$). Undetectable viral load increased from 35% to 50% ($\chi^2(1)=6.0$, $p=.015$). There was no significant difference in HIV care visits.

Conclusion: This sample of young trans women living with HIV was comprised predominately of trans women of color; many had limited educational attainment, very low income, and housing insecurity. Despite experiencing multiple health disparities, participants responded well to the text-message intervention. Advancement along the HIV care continuum was evidenced by improved ART uptake and adherence, and viral suppression, all of which significantly increased at 6-month follow-up.
**2021 Increasing Linkage, Engagement, and Retention in HIV Care**

**Reynaldo Cordova (presenting)**, James Zuniga, Kristin Keglovitz-Baker

1 Howard Brown Health, Chicago, IL, USA

**Background:** Howard Brown Health (HBH) is the Midwest’s largest provider of LGBTQ health services. Using Healthvana, a digital health app for delivering lab results, health information and direct messaging; HBH sought to improve engagement and retention in HIV medical care for at risk populations. Through the Special Projects of National Significance Social Media Initiative, HBH implemented the Social Media App for Retention, Treatment, Engagement, and Education (SMARTEE) intervention to engage clients living with HIV.

**Method:** Engagement included directly contacting clients experiencing a gap in care and offering a medical visit. Clients who were newly diagnosed, not virally suppressed, or struggling with medication adherence were offered SMARTEE services via the app. SMARTEE services included access to lab results, supportive services and direct messaging with staff. Clients not eligible for SMARTEE services were offered supportive retention services.

**Results:** Effectiveness required targeted, intentional and consistent outreach. From 01/01/2017 thru 12/31/2018, over 6,940 attempted contacts were made to 1,958 unique clients. This resulted in 955 scheduled medical appointments, with 617 being completed by clients who had been lost to care. Use of auxiliary services also increased with nearly 300 referrals and over 500 transportation cards being provided to facilitate retention in care. Engaging clients using digital platforms proved to be efficacious as over 7,000 messages were exchanged with clients during this time frame. These messages included appointment reminders, addressing client concerns, and weekly messages that were motivational and educational. This success illustrates the importance of innovative and targeted engagement efforts.

**Conclusion:** HBH staff are proposing to implement a Retention Program that addresses agency-wide retention needs and expands services. Implementation of this retention program aligns with the National HIV/AIDS Strategy, and will assist specifically with linkage to care, retention in care, and support for treatment adherence. Program success also illustrates the possibilities of retention for other at-risk populations.

**2022 A Mobile Health Intervention to Improve Medication Adherence among Patients Receiving HIV Care**

**Ana Ventuneac (presenting)**, Emma Kaplan-Lewis, Jessamine Buck, Randi Roy, Caitlin E. Aberg, Blanca A. Duah, Emily Forcht, Judith A. Aberg

1 Icahn School of Medicine at Mount Sinai, New York, NY, USA
2 VillageCare, New York, NY, USA

**Background:** Mobile health interventions that can be integrated in HIV clinical care settings are garnering attention for their potential in improving HIV outcomes. VillageCare developed the Rango program, a mobile health intervention combining a variety of technology-enabled features into one service to improve engagement in HIV care and antiretroviral therapy (ART) medication adherence.

**Method:** This study used a single-arm prospective design with baseline and 6-month assessments for pre-post comparisons, as well as a matched patient sample for between-group comparisons to test Rango’s preliminary efficacy in increasing the number of patients who achieve viral suppression. Eligibility criteria included documented HIV on ART, documented ART adherence difficulties with either detectable viral load or identified as ‘at risk’ for non-adherence, NYC residence, and being a Medicaid and/or Medicare beneficiary.

**Results:** The Rango sample (n=406) was predominantly 50 years of age or older (63%; M=50.67; SD=10.97, 23-82), Black/African-American (44%) or Hispanic/Latinx (38%), and male (59%). At baseline, 18% reported missing at least one dose of ART in the prior three days and chart reviews of recent VL showed that nearly 82% of participants were virally suppressed. Overall 95% of the patients enrolled in Rango returned for a medical follow-up visit. Of the 65 unsuppressed patients at baseline who returned for a medical visit at 6 months, 38 (59%) achieved viral suppression but only 4 patients (6%) of the 71 unsuppressed patients in the matched sample were suppressed at 6 months. GEE analysis to account for multiple observations showed that the odds of viral suppression were higher among Rango participants compared to patients receiving treatment as usual (OR=1.48; 95% CI: 1.00-2.19, Wald χ²=3.81, p=.051).

**Conclusion:** Our findings support efforts to continue to test this innovative approach in addressing ART non-adherence and viral suppression to reach HIV treatment goals.
2023 Motivational Enhancement System for Adherence (MESA) for Youth Starting Antiretroviral Therapy (ART): Preliminary Findings from a Multi-Site Study

Angulique Y Outlaw (presenting), Sylvie Naar, Karen MacDonell, Monique Green-Jones, Thomas Templin

1 Wayne State University, Detroit, Michigan, USA
2 Florida State University, Tallahassee, FL, USA

Background: Youth (ages 13-24) are the fastest growing group of people living with HIV in the United States. Adherence to antiretroviral therapy (ART) is a significant predictor of viral suppression and is associated with dramatic reductions in mortality and morbidity. Yet, adherence patterns for youth living with HIV (YLWH) are inadequate to effectively manage the disease. The purpose of this study is to determine the efficacy of an individually-tailored, motivation-based computerized intervention to improve viral load in YLWH starting ART and to identify mechanisms (motivation and self-efficacy for adherence, and HIV treatment knowledge) that may impact treatment effects.

Method: YLWH (n=111) were randomized and 73 completed both sessions (MESA intervention, n=37; System for Health (SH), control, n=36). Treatment completers and dropouts were similar in sociodemographic characteristics. Mean age was 19.8 and 19.9 for MESA and SH participants, respectively; 72.9% of MESA and 72.2% of SH participants self-identified as Black/African American, while 83.7% of the MESA and 86.1% of SH participants self-identified as male. Per protocol data was analyzed for this report.

Results: Viral loads for both the MESA and SH groups decreased significantly from baseline to 1-month (p<.01 and p<.01), respectively. However, only the MESA group decreased significantly in viral load from 1-month to 3-months (p<.01). Additionally, the MESA group showed a significant increase from baseline to 3 months for motivation (p<.01) and self-efficacy (p<.05) for adherence. Finally, the MESA group increased in HIV treatment knowledge from baseline to 3 months (p<.010).

Conclusion: Preliminary findings suggest significant improvements in the MESA group compared to the SH group with regard to viral load, motivation and self-efficacy for adherence, and HIV treatment knowledge.


Corrina Moucheraud (presenting), Amy Stern, Anisa Ismail, Tamara Nsubuga-Nyombi, Monica Ngonyani, Jane Mvungi, Jude Thaddeus Ssensamba

1 University of California, Los Angeles, CA, USA
2 University Research Co., Center for Human Services, Chevy Chase, MD, USA
3 Makerere University School of Public Health, Kampala, Uganda

Background: We evaluated a self-management support (SMS) initiative in Tanzania and Uganda, which used quality improvement to provide self-management counseling, nutritional support, and strengthened linkages to community-based services for highest-risk patients (those with malnutrition, missed appointments, poor adherence, high viral load, or low CD4 count). The evaluation assessed improvements in patient engagement, ART adherence, and retention.

Method: Difference-in-difference models used clinical data (n=541 in Tanzania, 571 in Uganda) to compare SMS enrollees to people who would have met SMS eligibility criteria had they been at intervention sites. Interviews with health care providers explored experiences with the SMS program and were analyzed using codes derived deductively from the data.

Results: By end-line, SMS participants in Tanzania had significantly improved visit attendance, measured as on-time appointment-keeping (odds ratio 3.5); no such significant program effect was seen in Uganda, which may reflect a dose-response relationship due to shorter program exposure there as over 90% of SMS enrollees in Tanzania had graduated from the program by the time data were collected, versus only 44% of those in Uganda.

Conclusion: Self-management can improve vulnerable patients’ outcomes — but maximum gains may require long implementation periods and accompanying system-level interventions. SMS interventions require long-term investment and should be contextualized in the systems and environments in which they operate.
**2025** InfoPlus Adherence Intervention in Haiti: Results of a Provider-Delivered EMR Alert-Based ART Adherence Counseling Program

Nancy Puttkammer (presenting), Tracy Sandifer, Jean Marcxime Chéry, Wilson Dervis, Joseph Adrien Emmanuel Demes, Jean Gabriel Balant, Jean Géto Dubé, Wilner Genna, Jane Simon

1. Department of Global Health, University of Washington, Seattle, WA, USA
2. Centre Haitien pour le Renforcement du Système de Santé (CHARESS), Port-au-Prince, Haiti
3. National University of Haiti, Port-au-Prince, Haiti
4. Justinen University Hospital, Cap Haitian, Haiti
5. University of Washington, Seattle, WA, USA

**Background:** In Haiti, the country most heavily impacted by HIV/AIDS in the Caribbean region, use of ART has scaled up dramatically; however, there are concerning levels of attrition, sub-optimal adherence, and suspected treatment failure. We developed *InfoPlus Adherence,* a culturally relevant intervention to promote ART adherence. The intervention combines two components: 1) a provider-delivered EMR alert-based signaling patients at elevated risk of treatment failure; and 2) provider-delivered brief problem-solving counseling to improve ART adherence.

**Method:** We tested *InfoPlus Adherence* in two large public-sector ART clinics, one in Port-au-Prince (the control site) and the other in Cap Haitian (the intervention site). We evaluated intervention fidelity and effectiveness using mixed methods, including patient baseline and follow-up surveys of ART information, motivation, and behavioral skills (IMB), observations of patient visits, and focus groups with providers. Sixty-five ART patients in each study arm were followed for up to 9 months.

**Results:** Focus groups affirmed that providers valued the intervention components. They had strong mastery of the meaning of the color-coded risk categories, and they expressed a desire for widespread implementation of the EMR alert functionality. They also described how *InfoPlus Adherence* helped them lead authentic conversations with patients about ART adherence challenges rather than defaulting to lecturing patients to take their medications. However, providers faced challenges in routinely implementing *InfoPlus Adherence* with fidelity. Patients in both study sites demonstrated improvements in ART-related IMB, but there was no consistent pattern of greater improvement in IMB at the intervention site compared to the control site. Further quantitative results comparing adherence levels and viral suppression outcomes at the sites will be available by the conference date.

**Conclusion:** We sought to identify an effective and scalable model for ART adherence support within Haiti’s national ART program. The study revealed ways the intervention could be improved for greater fidelity and effectiveness.

**2026** Longitudinal ART Adherence Trajectories and Sociodemographic and Psychosocial Predictors among ART Initiators in Cape Town, South Africa

Alissa Davis (presenting), Andrea Norcini Pala, Nadia Nguyen, Reuben Robbins, Claude A. Mellins, John Joska, Hetta Gouse, Dan Stein, Robert Remien

1. Columbia University, New York, NY, USA
2. University of Cape Town, Cape Town, South Africa

**Background:** Adherence to antiretroviral therapy (ART) can change over time, but factors associated with these changes are not well known, particularly in low and middle-income countries. We examined longitudinal trends in ART adherence, as well as sociodemographic and psychosocial predictors of adherence trajectories, to inform much needed evidence-based interventions.

**Method:** Sociodemographic and psychosocial factors (e.g., patient-clinic relationship, mental health, drug and alcohol use, stigma and social support) were measured at baseline among 356 individuals initiating ART in South Africa. Adherence was collected at 6-months and 12-months using a validated self-reported 3-question scale and dichotomized into “high adherence” (defined as a score ≥90%) and “low adherence” (defined as <90%). We conducted growth mixture modeling to identify longitudinal adherence trajectories and multiple logistic regression to identify predictors of these trajectories.

**Results:** We identified two adherence trajectories: a) “high adherence” (described as a trajectory ending in high adherence at 12 months), and b) “low adherence” (trajectory ending in low adherence). In the multiple regression model (low adherence group was the reference category), higher Patient Clinic Relationship scores (more favorable feelings about healthcare providers and clinic services) were significantly associated with a greater likelihood of having a high adherence trajectory (OR: 1.07; [95% CI: 1.04-1.11], p<0.01), while greater number of years living with HIV (OR: 0.91; [95% CI: 0.84-0.98]) and higher drug and alcohol use scores (OR: 0.94; [95% CI: 0.88-0.99]) were significantly associated with a decreased likelihood of having a high adherence trajectory versus a low adherence trajectory.

**Conclusion:** Interventions to improve patient-clinic relationships/satisfaction may increase patient adherence to ART. Also, data continue to support the need for integrated substance use treatment in ongoing HIV medical care.
Patterns and Predictors of Long-Term Antiretroviral Therapy Adherence Among People Living with HIV: A Cohort Study in North-Central Nigeria

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Background: The attainment of one of the UNAIDS 90-90-90 goal of viral suppression in 90% of HIV+ patients on antiretroviral therapy (ART) may be challenging in sub-Saharan Africa due to concerns regarding the declining rates of medication adherence. To determine correlates of long-term ART adherence, we examined pharmacy refill data from a large cohort in Nigeria.

Method: This retrospective cohort analysis included all ambulatory HIV+ patients aged ≥15 years with two or more recorded ART refill encounters between June 2004 and December 2015 in a tertiary care facility in North-Central Nigeria. Generalized estimating equation was used to identify pre-treatment predictors of long-term pharmacy refill adherence ≥95% measured as timeliness to medication refill schedules.

Results: Overall, 9,725 patients, predominantly females (68%), were included in the analysis. Mean age was 35.7±8.8 years. A total of 284,250 pharmacy refill visits were recorded, during 53,268 person-years of ART. Mean adherence rate to pharmacy refill visits increased from 92.5% (95%CI:92.3%-92.8%) in 2005 to 95.7% in 2008, and thereafter declined steadily to 89.8% (95% CI:89.1%-90.6%) in 2015. Pharmacy refill adherence ≥95% was predicted independently by two- or three-month compared to one-month drug supply (odds ratio [OR], 1.46;95% CI:1.43-1.50), female gender (OR, 1.08; 95% CI:1.03-1.12), primary or secondary level education and pre-treatment CD4+ cell count <350 cells/mm³ (OR, 1.29; 95% CI:1.21-1.37).

Conclusion: Our findings indicate a declining rate of pharmacy refill adherence over time in this population. Limited-resource settings should prioritize adherence interventions, with special consideration to modifiable factors such as multi-month drug supply for durable ART adherence.

Low Antiretroviral Therapy Persistence in a National Pediatric Cohort with HIV in the United States

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Background: No nationally representative data describe persistence with antiretroviral therapy (ART) for children with HIV in the US.

Method: We examined ART persistence in children (2-19 years old) with HIV enrolled in fee-for-service Medicaid in the 14 states with the highest HIV prevalence in 2011 and 2012. We followed children from an index date where children met inclusion criteria (e.g., at least 12 months' continuous eligibility) and were on an ART, until non-persistence or censoring (e.g., discontinuation of Medicaid, or December 31, 2012). We defined non-persistence as discontinuation of an ART regimen for at least 90 days. We used multivariable Cox proportional regression to determine the association between time to ART non-persistence and patient characteristics including age, sex, race, residential rurality, state, and comorbidities.

Results: We identified 16,185 HIV infected children (mean age 14.6 years; 60.4% female; 50.6% Black race; 16.7% White race). Among those with ≥1 year of follow-up (n=5,674), half (50.0%) never received ART. For ART users (n=2,837), only 9% persisted with ART for during ~2 years’ follow-up. The mean time to non-persistence was 16 months (SD, 8 months). Patient factors associated with ART nonpersistence included age 15-19 vs. 2-5 years [adjusted hazard ratio (adjHR) 1.59, 95% confidence interval (CI) 1.34-1.87]; presence of drug or alcohol abuse (adjHR 1.33; 95CI 1.16-1.53); and psychiatric comorbidities (adjHR 1.15; 95%CI 1.05-1.26). Patients with hyperlipidemia (adjHR 0.69; 95%CI 0.60-0.79) were less likely to discontinue their ART.

Conclusion: A high proportion of children with HIV in the US did not receive ART in 2011 and 2012, though this time period was before guidelines recommended universal treatment (2013). Among ART users, 91% became non-persistent during the observation period. Adolescents, and those with alcohol/drug abuse or psychiatric comorbidities may be prime targets for clinical interventions to improve ART persistence in children and adolescents.
2030 The Influence of HIV-Related Stigma on PrEP Disclosure and Adherence Over Time among Adolescent Girls and Young Women in HPTN 082

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Background: Oral pre-exposure prophylaxis (PrEP) is highly efficacious, however, low adherence undermines efficacy. Disclosure concerns and stigma around antiretrovirals and sexual behavior were key barriers to PrEP adherence for adolescent girls and young women (AGYW) in clinical trials, but this has not been explored in open-label studies.

Method: HPTN 082 was an open-label study of PrEP use among AGYW (ages 16-24) in Harare, Zimbabwe and Cape Town and Johannesburg, South Africa from 2016-2018. Serial in-depth interviews were conducted with a purposive sub-sample of 67 AGYW to explore experiences of stigma, disclosure, and PrEP adherence ¾ dynamic constructs that change over time. Participants were interviewed after 13-week and 26-week study visits. We analyzed data by inductively coding transcripts in NVivo software and using memo-writing and diagramming to summarize themes.

Results: AGYW described two types of stigma during their first interviews: stigma related to sex (e.g., “People say I’m a prostitute.”) and being perceived to be living with HIV (e.g., “My husband’s friends saw my pills and say I’m HIV infected.”). Stigma had a bi-directional relationship with disclosure: participants who anticipated stigma were reluctant to disclose PrEP use and reported adherence challenges and those who did disclose often described stigmatizing experiences. During counseling sessions and adherence clubs, participants had opportunities to discuss PrEP-related stigma and disclosure. During later interviews, they described disclosure as an “empowering” way to combat PrEP stigma (particularly stigma related to HIV), and many described becoming “community PrEP ambassadors” which improved their abilities to take PrEP and encourage others to use PrEP.

Conclusion: Stigma was an initial concern for AGYW but many were empowered to disclose PrEP use over time, which facilitated better self-reported adherence during follow-up. PrEP projects can foster disclosure through discussion and activities normalizing sexual behavior and PrEP use, which can reduce stigma and improve adherence.

2031 Two-Way Short Messaging Service (SMS) System Increases PrEP Continuation and Adherence among Young Kenyan Women

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Background: PrEP programs among young African women have noted low rates of continuation. We piloted a two-way short messaging service (SMS) system to remotely facilitate continuation/adherence among PrEP initiators within maternal child health (MCH) and family planning (FP) clinics in Kenya.

Method: We adapted an existing SMS platform to send PrEP-tailored, theory-based SMS and to allow clients to communicate with a trained nurse about their individual needs. We approached HIV-uninfected women on the same day they initiated PrEP at 2 MCH/FP clinics in Kisumu, Kenya from February-October 2018 and offered them enrollment into the SMS program. Participant SMS communication was free. In a pre-post evaluation, we compared PrEP continuation among women who initiated PrEP in the period before versus after SMS implementation.

Results: Overall, 337 women were approached; 195 (58%) were eligible and 192 (98%) of eligible women enrolled. Reasons for ineligibility (n=142) included not having a phone (28%) and sharing SIM cards (25%). Median age of enrollees was 25 years (IQR 22-30), 91% were MCH clients and 9% FP. Compared to women who initiated PrEP in the month prior to the pilot, SMS-enrollees were twice as likely to continue PrEP (22% vs 42%, prevalence ratio (PR)=1.9, 95% CI:1.2-3.0, p=0.005). Among women who returned for follow up, 73% of SMS-enrollees self-reported high PrEP adherence (<1 missed pill/week) compared to 55% of women who initiated PrEP prior to the pilot (PR=1.3, 95% CI:1.3-1.4, p<0.001). Most SMS enrollees (94%) reported that the SMS helped them understand PrEP better; 95% would recommend it to other PrEP users.

Conclusion: SMS use was associated with increased PrEP continuation/adherence among women attending MCH/FP clinics.
A Pragmatic Randomized Controlled Trial to Accelerate the Diffusion of Pre-Exposure Prophylaxis

John Schneider (presenting)\(^1\), Lindsay Young\(^1\), Arthi Ramachandran\(^1\), Stuart Michaels\(^1\), Hildie Cohen\(^1\), Ishida Robinson\(^1\), Leigh Alon\(^1\), Brandon Hill\(^2\), Mario Pierce\(^1\), Niranjani Karnik\(^1\), Clovis Sarmiento\(^1\), Darnell Motley\(^1\), Alida Bouris\(^1\), Aditya Khanna\(^1\), Matthew Ferreira\(^1\), Thomas Valente\(^1\), L. Philip Schumm\(^1\)

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**Background:** Despite clear efficacy of Pre-Exposure Prophylaxis (PrEP), urine TFV concentrations correlate with plasma TFV, and among 28 participants, mean age was 33 years and 16 (57%) were male. Median (IQR) steady-state trough TFV concentrations (ng/mL) for high, moderate, and low adherence in plasma were 41 (26-52), 16 (14-19), 4 (3-5); and in urine were 6,480 (3,940-14,300), 3,405 (2,210-5,020), and 448 (228-675). Overall, correlation between TFV levels in plasma and urine was strong (rho=0.78; p=0.0001). Pre-dose trough TFV concentrations were significantly different among the three adherence arms for plasma (p<0.0001) and urine (p=0.0006). In plasma, concentration differences between arms remained detectable between 10 to 14 days in urine, depending on adherence group.

**Conclusion:** Urine TFV concentrations correlate with plasma TFV, and can be used to distinguish recent high, moderate and low adherence among adults receiving PrEP or tenofovir-based ART. Urine TFV measurement can be used to estimate recent adherence to PrEP and ART and these findings will inform further development of a point-of-care urine immunoassay.

Urine Tenofovir Concentrations Correlate with Plasma Tenofovir and Distinguish High, Moderate, and Low PrEP Adherence: A Randomized Directly-Observed Pharmacokinetic Trial

Paul Drain (presenting)\(^1\), Rachel Kubik\(^1\), Orpanah Sirirakprasit\(^2\), Viraat Klinbuaayam\(^2\), Justice Quame-Amaglo\(^1\), Pra-Omsuda Sukrakanchana\(^2\), Suryan Tanasri\(^2\), Pimpimun Punyati\(^2\), Wasna Sirirungsi\(^1\), Ratchada Cresse\(^2\), Peter Bacchetti\(^3\), Hideaki Okochi\(^2\), Jared Baeten\(^1\), Monica Gandhi\(^6\), Tim Cresse\(^2\)

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**Background:** Direct measurement of tenofovir (TFV) in urine could be an objective method to monitor recent adherence to pre-exposure prophylaxis (PrEP) or TFV-based antiretroviral therapy (ART). We describe urine TFV concentrations in adults with controlled levels of adherence to inform point-of-care assay development and interpretation.

**Method:** We conducted a 3-arm randomized, open-label, pharmacokinetic study of tenofovir disoproxil fumarate (TDF) 300mg/emtricitabine (FTC) 200mg in HIV-noninfected adults. Participants were randomized to receive controlled TDF/FTC dosing as: (1) ‘high’ adherence (daily), (2) ‘moderate’ adherence (4 doses/week), or (3) ‘low’ adherence (2 doses/week). We obtained morning pre-dose spot urine and plasma samples during a 6-week directly-observed therapy (DOT) period and a 2-week washout period. TFV concentrations were measured using validated liquid chromatography tandem mass spectrometry (limit of detection: plasma 3 ng/mL, urine 50 ng/mL); pharmacokinetic parameters were calculated and compared.

**Results:** Among 28 participants, mean age was 33 years and 16 (57%) were male. Median (IQR) steady-state trough TFV concentrations (ng/mL) for high, moderate, and low adherence in plasma were 41 (26-52), 16 (14-19), 4 (3-5); and in urine were 6,480 (3,940-14,300), 3,405 (2,210-5,020), and 448 (228-675). Overall, correlation between TFV levels in plasma and urine was strong (rho=0.78; p=0.0001). Pre-dose trough TFV concentrations were significantly different among the three adherence arms for plasma (p<0.0001) and urine (p=0.0006). In plasma, concentration differences between arms remained significant for the first 12 hours after TDF/FTC ingestion. TFV concentrations remained detectable between 10 to 14 days in urine, depending on adherence group.

**Conclusion:** Urine TFV concentrations correlate with plasma TFV, and can be used to distinguish recent high, moderate and low adherence among adults receiving PrEP or tenofovir-based ART. Urine TFV measurement can be used to estimate recent adherence to PrEP and ART and these findings will inform further development of an objective point-of-care urine immunoassay.
2034 Substance Use Stigma, Avoidance Coping, and Missed HIV Appointments among MSM
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Background: Substance use among men who have sex with men (MSM) living with HIV has been associated with sub-optimal engagement in HIV care. Internalized, anticipated, and enacted stigma associated with substance use and HIV may account for this relationship. The revised stress and coping theory suggests that the internalization of stigma may elicit an avoidance response, resulting in missed stigma-related health behaviors, including missed HIV-medical appointments.

Method: Using logistic regression and bootstrapping techniques we investigated direct and indirect relationships between internalized, anticipated, and enacted substance use stigma (SUS); HIV-related internalized stigma; avoidance coping; and missing, and not rescheduling, one or more HIV-medical appointments in the past 6 months in a sampled 202 MSM living with HIV and problematic substance use.

Results: The sample was 22% Black/African American, 69% White, 29% Hispanic/Latinx, and over 50% reported and an annual income ≤$20,000. Internalized, anticipated, and enacted SUS were all associated with missing one or more HIV-medical appointments (OR=1.47, 95%CI: 1.15, 1.87; OR=10.44, 95%CI: 1.10, 1.88; and OR=2.08, 95%CI: 1.52, 2.84, respectively). Internalized, anticipated, and enacted SUS were also associated with avoidance coping (β=0.37, p<0.001; β=0.37, p<0.001; and β=0.43, p<0.001, respectively). Notably, HIV-related internalized stigma was not associated with missed HIV-medical appointments but was associated with avoidance coping (β=0.37, p<0.001). Additionally, we found a full indirect effect of avoidance coping on the association between anticipated SUS and missed HIV-medical appointments and a partial indirect effect on the association between internalized SUS and missing HIV-medical appointments. We did not find any indirect effect of avoidance coping on the association between enacted SUS and missed appointments.

Conclusion: While longitudinal investigation of the pathway between SUS, avoidance coping, and missed HIV-medical appointments is needed, our results indicate that avoidance coping related to anticipated and internalized SUS contributes to missed HIV-medical appointments among MSM living with HIV and problematic substance use.

2035 Fidelity of Integration of Antidepressant Management into HIV Primary Care in Malawi
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Background: Depression affects 18-30% of patients with HIV in Africa and impedes HIV treatment outcomes. Integrating depression treatment into HIV care is critical to optimizing HIV outcomes.

Method: We integrated a depression management program combining universal screening and assessment, psychosocial counseling, and algorithm-guided antidepressant management into HIV care at two health centers in Lilongwe, Malawi. We assessed fidelity of HIV clinicians in following the antidepressant prescribing and titration algorithm through clinical screening logs and medical charts.

Results: Over 24 months, covering over 2,000 patients newly establishing care, providers showed high fidelity in triage of suicidal thoughts (95% of those with suicidal thoughts were assessed for safety), antidepressant initiation (95% of those meeting criteria received a prescription), and correct initial dose (98%). Lower fidelity was observed at follow-up appointments. Only 65% of follow-up appointments included re-assessment of depressive severity. In only 43% of follow-up appointments the antidepressant was continued; in another 43% of cases the antidepressant was discontinued and in 14% of cases the antidepressant was switched. Although few patients had persistently high depressive symptoms at follow-up, none of these (0/7) received an antidepressant dose increase as indicated. Nevertheless, patients showed dramatic improvement: the median Patient Health Questionnaire-9 score decreased from 11 at baseline to 0 at 3 months, and the prevalence of suicidal thoughts decreased from 39% at baseline to 10% at 3 months.

Conclusion: HIV providers appropriately addressed suicidal thoughts and reliably initiated antidepressants at appropriate doses. Re-assessment and treatment adjustments at return visits were substantially more challenging. Nevertheless, patients achieved pronounced improvements in depression. Personalized digital contents and strategies are associated with higher levels of engagement in a peer-led social media based HIV prevention intervention.
HIV Stigma and Viral Load are Mediated by Depression and Antiretroviral Adherence in a Cohort of US Patients in Care

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Background: Few investigations of the mechanisms through which internalized HIV stigma may affect viral load (VL) have used large-scale longitudinal data.

Method: The CFAR Network of Integrated Clinical Systems (CNICS) is a cohort study that integrates medical records with validated patient reported outcomes (PROs) collected in clinic every 4-6 months. Between 2/2016 and 11/2017, 5,655 patients underwent initial stigma assessment. We examined their next assessment of depressive symptoms (PHQ-9), followed by a subsequent adherence assessment, along with the first measurement of VL at least 30 days after the assessment of adherence or ≥240 days from the stigma assessment if subsequent PROs were not available. We used Mplus 8 to estimate whether depressive symptoms and adherence sequentially mediated the effect of stigma (chained indirect effect) on unsuppressed VL (VL >200 copies/mL), adjusting for covariates, as well as to estimate the total and direct effects of stigma on VL and whether depression or adherence individually mediated the stigma-VL effect.

Results: Median age was 49, median years in CNICS was 7.4, 17% were cis-gender women, 32% were heterosexual, 39% were Black, and 15% Latino. The total stigma-VL effect was significant (estimate = -0.054; 95%CI = 0.013, 0.095; standardized β = 0.100; SD = 0.038). There was a significant indirect sequential association between stigma and unsuppressed VL through depressive symptoms followed by adherence (estimate = 0.013; 95%CI = 0.005, 0.026; standardized β = 0.025; SD = 0.009), but not through either mediator alone. The direct effect of stigma on VL was not significant (estimate = 0.028; 95%CI = -0.22, 0.079; standardized β = 0.015; SD = 0.047).

Conclusion: In a large cohort of US patients in HIV care, depressive symptoms followed by lower levels of adherence sequentially mediated the association between internalized HIV stigma and unsuppressed VL. Interventions to alleviate depressive symptoms resulting from stigma may help improve VL outcomes.

Closing Evidence-to-Practice Gaps: New Jersey’s Collaborative Approach to Behavioral Health Integration in HIV Settings

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Background: Mental health and substance use conditions affect People Living with HIV (PLWH) at more than threefold the general population and present barriers to achieving viral suppression among other outcomes along the HIV care continuum. In 2017, New Jersey Department of Health funded the Behavioral Health and HIV Integration Project (BHIP), a multi-year learning collaborative integrating behavioral health into HIV primary care using evidence-based quality improvement and integration models.

Method: 21 care and treatment-funded sites across NJ are divided into six regional cohorts led by practice facilitation coaches. BHIP guides cycles of group learning and action centered around four goals (integration, access, outcomes, system change). Participant sites generate change ideas based on root causes and tests of change are site-specific, with heavy emphasis on factors derived from the REAAM model to define success. Testing and implementing change is based on step measures that break down the components of systematizing change. Coordinating with National Quality Forum (NQF), BHIP is testing new measures for HIV and behavioral health population management and leveraging existing NQF measures and validated qualitative assessments. Sites report performance data every two months.

Results: Over 10 months, screening rates for depression (72%) and substance use (68%) have increased slightly. More sites are screening, all now are using validated screening tools, and the quality of screening has increased. Follow-up for positive screens increased from 57% to 64% and retention in behavioral healthcare from 60% to 69%. Viral suppression rates for PLWH with behavioral health disorders at baseline compared to all PLWH were 70% vs 77%. One-year outcomes will be presented.

Conclusion: Integrating behavioral health into HIV primary care using a mix of quality improvement approaches and evidence-informed interventions leads to improved outcomes. The BHIP approach holds promise for application to other jurisdictions and content areas.
2038 Perinatal Depressive Symptoms, HIV Suppression, and the Underlying Role of ART Adherence: Prospective Evidence from IMPAACT

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Background: Women with HIV are at high risk for experiencing depressive symptoms in the perinatal period. Yet, the associations between prenatal depressive symptoms and viral suppression at labor and delivery (L&D) and postpartum have not been previously examined prospectively.

Method: We analyzed data from the International Maternal Pediatric Adolescent AIDS Clinical Trial (IMPAACT) P1025, 2002-2013. We evaluated prenatal depressive symptoms at the third trimester using five items selected based on DSM-5 depression criteria (Cronbach’s alpha=0.77). Scores ranged from 5 to 30, with higher scores indicating greater symptoms. Viral suppression (viral load <400 copies/ml) at delivery and at 24 weeks postpartum served as the outcomes. We used logistic regression and path analysis to evaluate the associations of prenatal depressive symptoms with viral suppression at L&D and postpartum, and the extent to which these relationships are mediated through ART adherence.

Results: Among 1,367 deliveries, the mean prenatal depressive symptoms score was 12.6±4.5. Prenatal and postpartum adherence were directly proportional to the intensity of depressive symptoms, with women in the highest tertile for depressive symptoms having significantly lower adherence during pregnancy and postpartum (p<0.001). Stronger depressive symptoms by one standard deviation (SD) were associated with 17% and 15% lower likelihood of viral suppression at L&D [adjusted Odds Ratio: 0.83; 95%CI: 0.72, 0.97] and at 24-weeks postnatally [0.85; 0.72, 1.01], respectively. These associations were mediated by ART adherence, particularly in the perinatal period, where over 15% and 36% of the lower likelihood of suppression at L&D and postnatally, respectively, were accounted for by the lower prenatal adherence driven by depressive symptoms.

Conclusion: These findings highlight the potential negative impact of depressive symptoms, particularly as mediated through ART adherence, on viral suppression among women during the perinatal period. Interventions targeting depressive symptoms and adherence to ART have the potential to improve perinatal and postnatal viral suppression.

2039 Acceptability of Long-Acting Injectable ART among PLWH in Coastal Kenya

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Background: Long-acting injectable (LAI) ART offers people living with HIV (PLWH) further treatment options, yet acceptability data are scant.

Method: At a research facility/HIV clinic in Mombasa, Kenya, we conducted six focus group discussions (FGD) with PLWH: (1) 8 adolescent males, (2) 8 adolescent females, (3) 7 adult men, (4) 7 adult women, (5) 11 MSM, and (6) 8 female sex workers. Highest education was primary (31%) or secondary (37%); most participants (47%) had been diagnosed with HIV 6-10 years ago. FG facilitators led discussions eliciting feedback on six key features (i.e., home/clinic location, pain intensity, frequency, side effects, number of injections, and bodily site). Multiple reviewers coded transcriptions with content analysis to identify salient categories and themes.

Results: Many participants were non-adherent to their medications, due to stigma/discrimination, denial, and difficulty getting to clinics because of distance and cost of transport. Many reported irregular daily schedules and few reported viral suppression. Initial reactions to the idea of LAI ART were almost always questions about the frequency of injections required. Participants were accustomed to “good” medications being injectable and thus not concerned about number of injections, pain, or site reactions. Lack of access to refrigeration for storage and means of hygienic disposal of syringes were raised as barriers to implementation. The MSM initially said they wanted injections only yearly but then quickly accepted monthly as a good option. Participants generally preferred that doctors give the injections to avoid “getting the wrong vein and killing someone” and because they worried they could get fined for having a syringe. Regular clinic attendance was a concern, however.

Conclusion: Findings suggest there is a need for alternative options for ART delivery in Kenya. While injectable options would be acceptable, especially if required no more than monthly, both home-based and clinic-based implementation would face challenges.
**2040 Impact of Social Support and Stigma on Viral Load among a Community-Recruited Sample of HIV-Positive Men who have Sex with Men Enrolled in an mHealth Intervention**

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**Background:** HIV-positive men who have sex with men (MSM) face high levels of stigma and often report low levels of social support. We assessed the interaction of social support and HIV-stigma on detectable viral load (DVL) among a diverse community sample of HIV-positive MSM residing in New York City and participating in a mHealth antiretroviral (ART) adherence intervention, *Thrive with Me.*

**Method:** Demographic and psychosocial factors were collected at baseline: HIV stigma subscales (internalized, anticipated, enacted) and social support subscales (emotional, tangible, affectionate, social interaction). The level of detection for VL was <20 copies. Social support and HIV stigma subscales were dichotomized as high vs low/moderate support or stigma. T-tests were used to determine differences in HIV stigma scores by social support. Generalized linear models were used to estimate risk ratios for a detectable VL between the interaction of social support and stigma.

**Results:** 401 participants were recruited and completed baseline surveys. Participants were on average 39 years old (IQR=30–48), and 38.4% had DVL. More than three-quarters of participants were racial or ethnic minorities, including 57% African American and 27% Hispanic/Latino. Overall, individuals with high social support (all subscales) had lower internalized, anticipated, and enacted (all p<0.05) stigma compared to individuals with moderate to low social support. A significant interaction was found between enacted HIV stigma and affectionate support (p=0.037). Among those with low affectionate social support, an increase in enacted stigma increases risk for DVL, while decreasing risk among those with high affectionate support.

**Conclusion:** Future interventions should consider incorporating strategies to assist HIV-positive MSM with low affectionate support to seek relationships that include behavioral manifestations of caring to possibly act as a buffer against experienced stigma. The counterintuitive finding that high affectionate support and low enacted stigma decreases risk for DVL will be explored.

**2041 Understanding HIV Status Disclosure Process, Social Support Structures, and Antiretroviral Therapy Adherence among Young People in Soweto, South Africa: A Qualitative Study**

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**Background:** In South Africa, the prevalence for 15-24-year-old young people was 7.7% in 2017, a group particularly affected by the epidemic. About two-thirds acquired HIV through mother-to-child transmission. Informing them about their HIV status timely may benefit improved antiretroviral therapy (ART) adherence. Social support structures are important in disclosure and adherence. This study explored HIV status disclosure, social support structures, and ART adherence in HIV-infected young people.

**Method:** Using a qualitative methodology we conducted, tenin-depth interviews (IDIs) with perinatally HIV-infected young people on ART, aged 15-24 years old; eight IDIs with primary caregivers; and one focus group discussion with eight healthcare providers (HCPs). Participants were recruited through the Perinatal HIV Research Unit’s (PHRUs) paediatric and adult HIV clinics in Soweto. Transcripts were coded and analysed using thematic analysis.

**Results:** Four themes were identified: (1) HIV disclosure initiation and experiences, (2) suggestions for disclosure improvements, (3) social support structures for ART, and (4) ART adherence barriers and suggestions for improvement. (1) The age of HIV status disclosure initiation varied, with an average of 12 years. Disclosure experiences comprised: Disclosing person, setting, information received, circumstances and reactions (2) Suggestions for improvement included: Information sessions and disclosure tools for caregivers, a sensitive disclosure setting, gradual discussion with caregiver involvement and earlier initiation, and HIV education camps. (3) Support structures for ART management included: Caregivers, family members, HCPs, partner, close friends and school teachers. (4) Barriers included: Stigma, adolescence social developmental phases, mental health challenges, pill fatigue, taking ARVs when HIV positive caregivers are non-adherent. Ideas for improved adherence included: Peer support networks, continuous counselling, and mobile phone applications for medication reminders.

**Conclusion:** Timely disclosure of HIV-positive diagnosis and social support structures are critical for treatment adherence among young people. Disclosure should be an ongoing, developmentally tailored process. Support groups and tools are needed to equip caregivers and young people for improved disclosure and ART management.
2042 Increasing Pre-Exposure Prophylaxis Use Intentions among Young Gay and Bisexual Men

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Background: Young gay and bisexual men (GBM) account for 92% of all new HIV diagnoses among young men in the United States. Despite availability, uptake of pre-exposure prophylaxis (PrEP) is lowest for this age group and research is needed to understand PrEP use among this population.

Methods: Data were gathered from UNITE, a nationwide cohort of 8,000 HIV-negative GBM. Participants completed measures of PrEP stigma, PrEP benefits, and PrEP intentions. Analyses were limited to young GBM aged 16-24. Two models examined whether age moderates the association of PrEP stigma and perceived benefits of PrEP with PrEP intentions.

Results: There was a significant main effect of PrEP stigma on PrEP intentions (β=-0.21, p<0.001) but no main effect of age; the interaction between PrEP stigma and age showed the impact of PrEP stigma on intentions was diminished among older ages (β=-0.05, p=0.01). There was also a significant main effect of perceived benefits of PrEP on PrEP intentions (β=0.38, p<0.001) and again no main effect of age; the interaction between perceived benefits of PrEP and age showed the impact of perceived benefits of PrEP increased among older ages (β=0.04, p<0.00).

Conclusions: The impact of stigma was stronger for younger men, whereas the impact of perceived benefits of PrEP was strong for older men. The greater focus on social concerns for younger men is consistent with developmental literature and suggests that getting younger HIV-at-risk GBM on PrEP may require a major focus on social barriers, like stigma. One way to reduce stigma may include focusing on building social support, whereas utilization of motivational interviewing may prompt additional conversation about the benefits of PrEP use.

2043 Engaging Leaders of Community Social Networks of Black MSM to Advocate to Peers for PrEP: Intervention Feasibility and Evidence of Efficacy

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Background: HIV incidence among African American MSM is disproportionately high but PrEP uptake among high-risk racial minority MSM is lower than for nonminority men, especially in mid-sized cities across the country’s heartland. Community interventions that identify and engage socially influential Black MSM network leaders to become PrEP advocates hold promise for reaching high-risk racial minority MSM hidden in the community and for increasing their PrEP uptake.

Methods: 5 social networks of Black MSM in Milwaukee were enrolled. Networks were recruited by identifying 5 “seeds” in community venues, then recruiting all willing MSM friends of each seed, and then recruiting the friends of those friends (n=40 participants). Eleven leaders most interconnected with others in their network were identified and attended a group intervention that provided PrEP education, addressed misconceptions, strengthened benefit perceptions, and discussed where to go to get PrEP. Leaders practiced and were then asked to pass along what they learned each week. All members of each network completed assessments of PrEP-related characteristics at baseline and 3-month followup.

Results: Network leaders attended an average of 93% of intervention sessions. There were statistically significant (p<.05) increases between baseline and follow-up in network members’ peer norms for PrEP use, the perceived protective value of PrEP, and self-efficacy for using PrEP. Participants talk with friends about PrEP increased by 50% from baseline levels, the proportion of participants who reported discussing PrEP with providers nearly doubled (from 36% to 67%), and nearly 25% of participants not on PrEP at baseline began the regimen by follow-up.

Conclusions: Network interventions can engage leaders of social networks of African American MSM in the community to talk with friends about PrEP. This study provides preliminary evidence of change in PrEP-related views, action-taking, and use following the network intervention. Larger-scale controlled evaluations of the approach are warranted.
**2044** “The Movers and Shakers in the Black Communities”: The Influence of Social Networks on PrEP Use among Young Black Gay and Bisexual Men

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**Background:** Pre-exposure prophylaxis (PrEP) is a promising part of HIV prevention, yet racial disparities in PrEP uptake persist. Evidence indicates that Black gay, bisexual, and other MSM (GBM), face numerous social and structural barriers to PrEP including stigma, medical mistrust, and exclusion from the healthcare system. However, little research has examined how social networks can influence PrEP use and help Black GBM overcome these identified barriers.

**Method:** To understand the influence of peers and social networks on Black GBM’s perceptions of and decisions about PrEP use, we conducted in-depth interviews with 50 Black GBM in Milwaukee and Cleveland. Participants were recruited online and through LGBT service organizations. Interviews were audio-recorded and transcribed verbatim. We used multi-stage inductive coding and thematic content analysis, using MAXQDA software.

**Results:** Overwhelmingly, participants’ primary source of information on PrEP was other Black GBM in their communities. Many participants described mistrust and discomfort talking to physicians about sex or PrEP or frustration over their physicians’ ignorance about PrEP. They also noted that PrEP wasn’t “promoted well enough in communities of color.” In response, participants relied on their peers and social networks, particularly other Black GBM in their communities, for information on PrEP. Participants described the “movers and shakers” in Black LGBT communities who have been influential in educating others and advocating for PrEP. Well-respected vocal advocates for PrEP have emerged in the Black LGBT community as PrEP champions who have successfully influenced young Black GBM’s views on PrEP. Learning about PrEP from other Black GBM reduced PrEP stigma, reduced pharmaceutical and government mistrust, and was described as the “gateway” to PrEP for many participants.

**Conclusion:** Our results reveal the role social networks and peer groups can play in increasing PrEP use among Black GBM. Social network interventions may help overcome the stigma and mistrust that are contributing to PrEP disparities.

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**2045** Personalized Digital Contents and Strategies are Associated with Higher Levels of Engagement in a Peer-Led Social Media-Based HIV Prevention Intervention

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**Background:** The attributes of postings to a virtual community wall can influence engagement with online health interventions. Because techniques for optimal online engagement of men who have sex with men (MSM) are unknown, we analyzed the effects of digital post characteristics on engagement levels in E-PrEP—a peer-delivered, social-media based HIV prevention intervention for Black and Latinx MSM(YBLMSM) in New York City.

**Method:** Ten YBLMSM peer-leaders participating in E-PrEP disseminated tailored health messages (“posts”) over six-weeks to 164 YBLMSM participants in private Facebook groups. We categorized posts based on content-types (video, image, infographic, text-only, or article) and engagement-strategies used (posing a question, hashtag, tagging participants, emoji, celebrity references, and community [posts featuring people of color]). We calculated engagement-scores by summing each post’s likes and comments and weighted by a ratio of total likes/comments, and potential viewers. We calculated mean engagement-scores (MES) for each categorization and compared using ANOVA and multivariable regression (shown as b (95%CI)).

**Results:** A total of 459 posts consisted of the following content-types: 113 videos, 126 images, 67 infographics, 54 text-only and 99 articles. Engagement-strategy use was: 148 question, 120 hashtag, 35 tagging, 59 emoji, 10 celebrity, and 161 community. MES across all content-types, and across each strategy was: questions (0.49(0.39-0.58)), hashtag (0.24(0.16-0.33)), tagging (0.14(0.05-0.24)) than articles. In multivariable analysis of engagement-strategies, tagging (0.49(0.39-0.58)) and questions (0.10(0.05-0.15)) were more likely to have higher MES compared to not using an identifiable engagement-strategy (p<0.01).

**Conclusion:** Personalized content-types and engagement strategies were most successful at eliciting greater engagement. Social media-based interventions should consider personalizing digital contents to enhance engagement.
Acceptability of and Adherence to the Dapivirine Vaginal Ring for HIV-1 Prevention

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Background: MTN-020/ASPIRE, a phase III trial in sexually-active women, demonstrated the monthly dapivirine vaginal ring’s (DVR) protection against HIV-1 acquisition. We assessed correlation between ring acceptability and adherence to inform future ring introduction.

Method: Women randomized to DVR at 15 sites in 4 African countries were included (n=1313). Audio computer-assisted self-interviews captured acceptability measures at product discontinuation (PD). Nonadherence was defined as plasma dapivirine ≥95 pg/ml at PD and ≤23.5 mg of dapivirine in the final DVR. Logistic regression models, adjusted for demographics.

Results: 1146 (87%) DVR participants completed the PD visit (average 22 months in ASPIRE). Most (92%) reported the ring was ‘usually comfortable’ to wear daily, was acceptable to their partner (70%), and were ‘very likely’ to use DVR in the future (64%). Uganda (78%) and Zimbabwe (78%) reported higher likely future use than South Africa (59%) and Malawi (58%). Only 22% felt the ring during sex; 16% noticed the ring during daily activities. At PD, 145 (12%) were nonadherent. Odds of nonadherence were significantly greater for women who: felt the ring during sex (AOR 2.96 (95%CI 1.76, 4.99); p<0.001), had a partner who found DVR unacceptable (AOR 2.87 (95%CI 1.75, 4.71); p<0.001) and reported unlikely future use (AOR 2.27 (95%CI 1.54, 3.33); p<0.001). No significant association was found between nonadherence and noticing ring during daily activities.

Conclusion: The DVR was highly acceptable to participants and partners, and the majority expressed future likelihood of use, with country variation. The impact of ring awareness during sex and partner’s acceptance on adherence could be addressed through counseling in future ring interventions.

Effects of a Family-Based Economic Empowerment Intervention on Suppression of HIV Viral Load among Youth in Southern Uganda

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Background: Successful antiretroviral Therapy (ART) treatment for HIV/AIDS depends on administration of effective medication and medication adherence. However, ART-based medication and medical visits can be extremely costly in terms of individuals’ time and finances, particularly in Low resource contexts.

Method: This paper used data from 288 youth with detectable HIV RNA viral loads (VLs) at baseline and followed them through four time-points (12-, 24-, 36-, and 48-months post-intervention initiation). The participants were from Suubi+Adherence, a five-year longitudinal cluster randomized control trial with 702 adolescents living with HIV (ALWHIV) aged 10 to 16 years old at enrollment. The overall goal of Suubi+Adherence was to examine the impact of an innovative family economic empowerment intervention on ART adherence ALWHIV in Uganda. This paper examines the effect of the intervention on VL, dichotomized between undetectable (<40 copies/ml) and detectable (≥40 copies/ml) as a proxy for good adherence. The Kaplan-Meier (KM) analysis and Cox proportional hazard models were used to estimate the treatment effects.

Results: Results indicated that the intervention illustrated significant effects on incidence of undetectable VL. The analysis showed that on average, the intervention group children took 2.77 years to achieve undetectable VL while for those in the non-intervention group it was 3.14 years (p=0.0112). In addition, the Cox regression showed that along with other factors, the intervention significantly increased the probability of achieving undetectable VL (HR=1.28, CI: 1.01 – 1.61, p=0.038) in comparison to boys while controlling for family structure and other demographics.

Conclusion: Our findings suggest that economic empowerment interventions have the potential to support youth’s achievement of undetectable VL more rapidly.
2052 A New Index of Engagement in HIV Care Can Identify Patients at Risk of Poor Clinical Outcomes

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Background: Brief screening tools to identify patients at risk of poor care engagement can help direct resources for intervention. Using patient and provider/researcher input from focus groups, an online Delphi, and cognitive interviewing, we developed a new 10-item self-reported index of engagement in care and performed cross-sectional validation (α=.88) in the CFAR Network of Integrated Clinical Systems (CNICS). We now present prospective validation analyses.

Method: From April 2016-March 2017 the engagement index was added to patient-reported outcomes at primary care visits at seven CNICS clinics. Viral load (VL) and primary care (PC) appointment attendance were obtained from medical records. Multivariable logistic regression models, controlling for sociodemographic characteristics and baseline VL, estimated the odds on the index of: 1) VL <200 copies/mL on all VL measurements in the next year, with sensitivity analyses considering those without any subsequent measurement as all suppressed or all detectable; 2) keeping the next scheduled PC appointment; 3) keeping all scheduled PC appointments in the next year.

Results: Of 3,308 patients (median age 50, 19% cis-female, 33% heterosexual, 41% Black, 9% Latino, 87% virally suppressed), 2,767 had one year of follow up and 2,453 had at least one subsequent VL measurement (median=2) with 86% suppressed on all measurements. Visit adherence at the next PC appointment was 81% and 51% for all scheduled (median=2) appointments. Higher index scores were associated with increased odds of sustained viral suppression (aOR 1.51, 95% CI 1.22-1.87, p<0.001). Results did not change with imputations of missing VL. Higher index scores were associated with increased likelihood of attending the next PC appointment (aOR 1.22, 95% CI 1.02-1.46, p<0.03) and all appointments in the next year (aOR 1.31, 95% CI 1.12-1.53, p<0.001).

Conclusion: The index provides an easily implementable screener to identify patients at risk for poor clinical outcomes, which can facilitate timely intervention.

2053 Prior PrEP Use is Associated with Substantially Reduced Risk of HIV Diagnosis in a Nationwide Cohort of Sexual Minority Men

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Background: Use of PrEP according to guidelines is well-known to virtually eliminate risk of HIV infection. At the same time, concerns have been raised about behavioral changes while on PrEP and whether individuals would transition safely off of PrEP upon discontinuation.

Method: As part of the UNITE cohort study, 8,104 sexual minority men (SMM) across the US completed an enrollment survey and subsequent home-based saliva sampling for lab-based HIV screening and received a determination result. We used logistic regression adjusted for a range of structural, psychosocial, and behavioral risk factors for HIV infection to examine the role of former PrEP use on rates of undiagnosed HIV infection at enrollment (men currently using PrEP were ineligible unless they reported significant adherence problems).

Results: A total of 155 SMM (1.9%) self-reported an HIV-negative or unknown status and subsequently received a positive screening result. Numerous factors emerged as predictive of undiagnosed HIV infection (p<.001), including Black racial identity, a sexual position identity of “bottom,” club drug use, and HIV testing less than every 6 months. Adjusted for these and all other variables, former use of PrEP was associated with nearly 70% lower odds of undiagnosed HIV infection (AOR=0.31, p=.009).

Conclusion: SMM who formerly used PrEP were substantially less likely to have undiagnosed HIV infection. This notably indicates that PrEP served its intended purpose, allowing them to reduce their risk of infection during a period in which it may have been higher without leading to any “compensatory” changes in behavior that might subsequently increase risk for infection upon discontinuation. With appropriate guidance by providers, PrEP can be safely discontinued in the absence of ongoing HIV risk such discussions should be part of routine PrEP care.
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