Our findings demonstrate that the percent of individuals newly diagnosed with HIV at HUMC and affiliated clinics is less than that reported nationally and in California. This suggests that municipal health systems fall short in PrEP usage, notably for structurally vulnerable populations such as racial minorities as well as heterosexual females. Ending racial/ethnic disparities in HIV and in PrEP coverage not only requires educating specialty providers on PrEP, but also addressing structural racism and identifying structural barriers to care in vulnerable communities.

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998. Understanding Retention in PrEP Care in the South: Insights from an Academic HIV Prevention Clinic
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Session: P-46. HIV: Prevention

Background. Daily emtricitabine-tenofovir disoproxil fumarate has emerged as one of the most effective tools to prevent HIV transmission. However, it remains poorly utilized in the South. We report on PrEP retention in care and sexually transmitted infections (STIs) in a large academic PrEP clinic in Durham, North Carolina.

Methods. We conducted a retrospective chart review of patients in the Duke University PrEP Clinic from Jan. 1, 2015 through Oct. 15, 2019. Short-term retention in care was completion of a 3 month (mo) follow up as per CDC guidelines. Long-term retention was defined as completion of a 3 mo visit and an additional 3 mo of continuous follow up, and was met by 130/237 (55%) and 80/217 (37%) patients respectively. Short and long term retention in care were met by 130/237 (55%) and 80/217 (37%) patients respectively. Base-line STI was not prevalent, reinforcing that frequent STI testing and counseling should be part of each PrEP encounter. Further investigations into how to increase and improve PrEP utilization for HIV prevention are needed.

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999. Using the F/TDF Adherence-Efficacy Relationship to Calculate Background HIV incidence: Results from the DISCOVER trial
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Session: P-46. HIV: Prevention

Background. RRANDOMIZED trials of new PrEP agents compare to oral emtricitabine-tenofovir disoproxil fumarate (F/TDF) and do not have a placebo arm. We used the well-characterized adherence-efﬁcacy relationship for F/TDF from iPrEx OLE, to back-calculate the (non-PrEP) background HIV incidence (bHIV) in the F/TDF arm of DISCOVER and estimate comparative efﬁcacy (to bHIV).

Methods. TDISCOVER is an ongoing randomized active-controlled trial in 5,387 men who have sex with men and transgender women that demonstrated non-inferiority of F+tenofovir alafenamide (F/TAF) to F/TDF (IRR 0.47 (95% CI 0.19, 1.15). TFV-DP levels in DBS were assessed for all diagnosed with HIV and in a randomized subset of 10%. We used a Bayesian model with a prior distribution, derived from iPrEx OLE, to back-calculate the (non-PrEP) background HIV incidence (bHIV) in the F/TDF arm of DISCOVER and estimate comparative efﬁcacy (to bHIV).

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Table 2: Primary Outcomes by Specialty (N=381 Total Encounters)

| Specialty            | Non-PrEP HIV Counseling (Yes) | PrEP Discussion (Yes) | PrEP Prescription (Yes) |
|----------------------|-------------------------------|-----------------------|-------------------------|
| Family Medicine      | 59 (15.5%)                    | 20 (5.2%)             | 7 (1.8%)                |
| Internal Medicine    | 12 (3.2%)                     | 5 (1.3%)              | 1 (0.3%)                |
| Obstetrics           | 80 (21.4%)                    | 0 (0.0%)              | 0 (0.0%)                |
| Emergency Medicine   | 16 (4.2%)                     | 2 (0.5%)              | 0 (0.0%)                |
| Urgent Care          | 12 (3.1%)                     | 1 (0.3%)              | 0 (0.0%)                |
| Total                | 188 (49.3%)                   | 28 (7.3%)             | 8 (2.1%)                |

Table 3: Sexually Transmitted Infections Frequency (N=381 Total Encounters)

| STI                  | N (%)  |
|----------------------|--------|
| Syphilis             | 39 (10.2%) |
| Gonorrhea            | 29 (7.6%)  |
| Chlamydia            | 104 (27.3%) |
| Total Combined STIs  | 172 (45.1%) |
| Total High Risk Sexual Behavior | 209 (54.9%) |
| Total Encounters     | 381 (100%) |

Table 1) Odds Ratios of Retention in Care at 3 and 12 Months

| Variable | Short Term Retention (3 Months) OR (95% CI) | Long Term Retention (12 Months) OR (95% CI) |
|----------|---------------------------------------------|---------------------------------------------|
| Female   | 2.81 (0.73-10.8) 0.17 (0.01-1.48)          |                                             |
| Black    | 0.81 (0.45-1.46) 0.83 (0.39-1.79)          |                                             |
| Hispanic | 1.42 (0.42-4.76) 0.96 (0.22-4.11)          |                                             |
| MSM      | 5.22 (1.57-17.32) 1.48 (0.39-5.37)         |                                             |
| No Insurance | 0.50 (0.25-1.02) 0.32 (0.11-0.99)       |                                             |
| Self-routed | 1.18 (0.67-2.07) 2.18 (1.12-4.23)    |                                             |
| HIV Positive Partner | 0.89 (0.44-1.76) 1.96 (0.72-3.85)       |                                             |
| 35 and Under | 0.87 (0.50-1.52) 0.59 (0.33-1.13)    |                                             |
| Baseline STI | 0.81 (0.36-1.86) 1.95 (0.73-5.18)    |                                             |

999. Using the F/TDF Adherence-Efficacy Relationship to Calculate Background HIV Incidence: Results from the DISCOVER trial

Conclusion. Our PrEP clinic shows a decline in patient retention over time. STIs were also prevalent, reinforcing that frequent STI testing and counseling should be part of each PrEP encounter. Further investigations into how to increase and improve PrEP utilization for HIV prevention are needed.

Disclosures. All Authors: No reported disclosures

Figure 1) Retention in Care for Patients with Baseline STI Diagnosis.

Conclusion. Our PrEP clinic shows a decline in patient retention over time. STIs were also prevalent, reinforcing that frequent STI testing and counseling should be part of each PrEP encounter. Further investigations into how to increase and improve PrEP utilization for HIV prevention are needed.

Disclosures. All Authors: No reported disclosures

Figure 1) Retention in Care for Patients with Baseline STI Diagnosis.
Results. There were 6 vs. 11 post-baseline HIV infections (0.14 vs. 0.25 per 100 person-years [PY]) on F/TAF and F/TDF. Of the 11 on F/TDF, 10 had low, 0 had medium, and 1 had high TVF-DP levels; among HIV-negative controls, 5% of the person-time had low; 9% had medium, and 8% had high TVF-DP levels. A non-informative prior distribution for bHIV, combined with the prior for TVF-DP level-efficacy relationship, yielded a posterior bHIV incidence [0.08 Bayesian credible interval (CrI)] of 3.4/100 [1.9, 6.0/100] PY; which suggests a median F/TAF efficacy [95% CrI] of 96% [88%, 99%] and 93% [87%, 96%] for F/TDF compared to bHIV. We chose a conservative prior distribution for bHIV of 1.0/100 PY, the model yields a median posterior bHIV [0.80 CrI] of 2.8/100 [1.7, 4.7/100] PY; which suggests a median eFIC [95% CrI] of 95% [86%, 99%] for F/TAF and 92% [86%, 67%] for F/TDF compared to bHIV with corresponding number of HIV infections averted of 117 and 114, respectively (Figure). Figure.

Conclusion. The F/TDF adherence-efficacy relationship can be used to back-calculate bHIV incidence in MSM/TW PrEP trials and assess the efficacy of new PrEP agents compared to bHIV.

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1000. HIV and the Treatment-Experience Patient: The Positive Impact of Case-Based Education on Physicians’ Competence and Confidence

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Session: P-47. HIV: Treatment

Background. Despite therapeutic advances, treatment-experienced HIV patients can present a clinical challenge, even to experienced care providers.

Table. Assessment of Educational Effectiveness

| Area of Assessment | % of O/controls selecting the correct response at pre vs post-assessment | P-value for change in scores for change in scores |
|--------------------|-------------------------------------------------|-----------------------------------------------|
| Timely modification of ART based on patients’ declining renal function and presence of proteinuria | 73% improvement (55% vs 94%) | < 0.0001 | v=366 | (Extended) |
| Incorporating patient preferences and priorities into clinical decision-making | 107% improvement (43% vs 99%) | < 0.0001 | v=489 (Extended) |
| Selection of ARTs with a high barrier of resistance for individuals who have a history of inconsistent engagement in care | 8.3% improvement (64% vs 91%) | NS | v=NS |

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1002. A Daily Single Tablet Regimen (STR) of Bictegravir/Emtricitabine/Tenofovir Alafenamide (B/F/TAF) in Virologically-Suppressed Adults Living with HIV and End Stage Renal Disease on Chronic Hemodialysis

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Session: P-47. HIV: Treatment

Background. Treatment for people living with HIV (PLWH) and end stage renal disease (ESRD) on hemodialysis (HD) has previously required complex dose-adjusted regimens. We evaluated a daily regimen of elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide (B/F/TAF) and established this treatment as effective and safe, with a positive safety profile and low protease inhibitor-based regimen use. Appropriate monitoring of HIV RNA post-discharge to ensure ongoing VS may not occur following non-HIV-related illnesses. The objective of this multi-center study was to describe HIV RNA monitoring and VS in PLWH following hospitalization for non-HIV-related illnesses.

Methods. PLWH at least 18 years old with a CD4 count >200 cells/mm³ on ART prior to admission, hospitalized for 24 hours or more at either of two large, academic medical centers (where they also attended follow-up clinic visits) for a non-HIV-related illness, and that survived to hospital discharge between January 1st 2010 and December 31st 2015 were eligible for analysis. The primary outcome was the presence of an HIV RNA measurement as recommended by national guidelines within 6 months of hospital discharge. Secondary outcomes included the incidence of transient viremia and loss of VS after discharge.

Results. A total of 329 patients were included. The median age was 51 years (interquartile range [IQR] 44–58), 76.6% were male, and 48.3% were African American. The median CD4 count was 484 cells/mm³ (IQR 357-629) and 85.4% (n=281) had an undetectable HIV RNA prior to admission. Among the 97.6% (n=321) of patients with an HIV RNA measurement after hospital discharge, the median time to HIV RNA measurement was 2.4 months (IQR=1.2-4.1) and 86.3% (n=284) had an HIV RNA measurement within 6 months. Among patients who were undetectable prior to admission, transient viremia after discharge occurred in 7.1% (n=20) within a median of 2.5 months (IQR=1.3-4.1) and 4 of these patients lost VS. Three of the four patients with loss of VS were admitted for a non-HIV-related illness and all were on protease inhibitor-based regimens.

Conclusion. HIV RNA monitoring appears to occur according to guideline recommendations in the majority of PLWH after hospitalization for a non-HIV-related illness. Despite the occurrence of transient viremia, loss of VS was rare. Future studies should focus on risk factors for loss of VS.

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