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996. The Potential for Reducing Opioid and Analgesic Prescriptions Via Herpes Zoster Vaccination

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Session: P-46. HIV: Prevention

Background. Herpes zoster (HZ), or shingles, is a common neurocutaneous disease caused by the reactivation of latent varicella zoster virus that often includes rash and neuropathic pain that may last for months. Opioids and other analgesics may be prescribed. Recombinant zoster vaccine (RZV) is preferentially recommended for the prevention of HZ in adults aged 50 years and older. This study aimed to assess the impact of RZV vaccination on opioid and other analgesic prescription-related outcomes.

Methods. Estimates of analgesic prescription rates (opioids, benzodiazepines, and other analgesics) among HZ cases were established using Truven claims data from 2012-2018 for adults aged 50 years and older. HZ case avoidance with RZV vaccination was calculated using a previously published cost-effectiveness model. This data was included in a calculator assessing the impact of RZV vaccination on analgesic prescription-related outcomes (compared to no vaccination).

Results. Between 24.4% and 28.0% of HZ cases in the observed claims had at least one opioid prescription, dependent on age group (4.5%-6.5% and 8.6%-19.6% for benzodiazepines and other analgesics, respectively). The mean number of opioid prescriptions per person in each age group with at least one opioid prescription was between 1.7 and 1.9 (1.7-2.3 and 1.7-2.0 prescriptions for benzodiazepines and other analgesics, respectively). Assuming a 1-million-person population and 65% RZV coverage, the calculator predicts RZV vaccination will prevent 75,002 cases of HZ and will prevent 19,311 people from being prescribed at least 1 HZ-related opioid, 4,502 people from being prescribed benzodiazepines, and 12,201 people from being prescribed other analgesics. Additionally, 34,520 HZ-related opioid prescriptions will be avoided (9,413 benzodiazepine prescriptions; 22,406 other analgesic prescriptions).

Conclusion. HZ is associated with high levels of opioid, benzodiazepine, and other analgesic use. Primary prevention of HZ by vaccination could potentially reduce opioid and other medication exposure.

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997. The Purview Paradox: PrEP Utilization at a Major Southern California County Teaching Hospital and Affiliated Clinics

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Session: P-46. HIV: Prevention

Background. According to the Centers for Disease Control (CDC), PrEP coverage in the United States was approximately 18% in 2018 and 21.9% in California. We predict that PrEP prescription is lower at Harbor-UCLA Medical Center (HUMC) and affiliated clinics within Los Angeles County Department of Health Services.

Methods. A retrospective chart review of HIV-negative patients with ICD-10 coded diagnoses of sexually transmitted infections (STIs) or high-risk sexual behavior was performed across various medical specialties at HUMC and affiliated clinics in 2018. Documentation of sexual behavior risk reduction counseling, PrEP discussion and prescription was reviewed from electronic medical records for each encounter. Descriptive statistics and analysis were completed in STATA Version 16.1, StataCorp LLC.

Results. The sample included 250 individual patients, all with indications for PrEP. Of those, 47.2% identified as Latinx and 27.2% Black. Table 1 shows 74% of patients identified as heterosexual whereas 9.2% identified as gay, and 4.4% bisexual. Of the 250 individual patients, 87 (34.8%) returned for a 2nd visit, 35 (14.0%) for a third, and 9 (3.6%) for a 4th visit, for a total of 381 encounters. Of the total encounters, 49.3% had sexual behavior risk reduction counseling, 7.3% had discussions about PrEP with their provider, and only 2.1% were newly prescribed PrEP (Table 2). Of the 2.1% new PrEP prescriptions, 1.8% were prescribed by family medicine providers with no new prescriptions by OB/GYN or acute care providers. Only 25% of new PrEP prescriptions were female patients. A positive test for an STI occurred in 45.1% of total encounters while high risk sexual behavior was identified in 54.9% of encounters (Table 3).

Table 1: First Encounter Demographics (N=250 Individual Patients)

Table 1: First Encounter Demographics (N=250 Individual Patients)

	Individual Patients (N=250)
Mean Age	32.4
Gender	
Male	101 (40.4%)
Female	147 (58.8%)
Non-Binary	2 (0.8%)
Race/ Ethnicity	
Asian/ PI	15 (6.0%)
Black	68 (27.2%)
European	19 (7.6%)
Latinx	118 (47.2%)
Mixed Race	7 (2.8%)
Other	23 (9.2%)
Sexual Orientation	
Bisexual	11 (4.4%)
Heterosexual	185 (74.0%)
Gay	23 (9.2)%
Unspecified	31 (12.4%)
Provider Type	
Physician	120 (48.0%)
Nurse Practitioner	116 (46.4%)
Physician Assistant	3 (1.2%)
Medical Student	9 (3.6%)
Other	2 (0.8%)
Specialty	
Family Medicine	88 (35.2%)
Internal Medicine	16 (6.4%)
Ob/Gyn	89 (35.6%)
Emergency Medicine	32 (12.8%)
Urgent Care	25 (10.0%)
Insurance	
Self-Pay	40 (16.0%)
Medicaid	168 (67.2%)

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

Table 2: Primary Outcomes by Specialty (N=381 Total Encounters)			
	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%)
Ob/Gyn	89 (23.4%)	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)

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

Conclusion. Our findings demonstrate that the percent of individuals newly prescribed PrEP (2.1%) 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 visit between 8 and 12 mo. Baseline STI was defined as a diagnosis at or within 1 year prior to initial PrEP visit. STI diagnosis while on PrEP was any subsequent diagnosis while retained in care. Odds ratios (OR) were generated using multivariable logistic regression. Kaplan-Meier curves were generated for retention in care and compared using the log rank test.

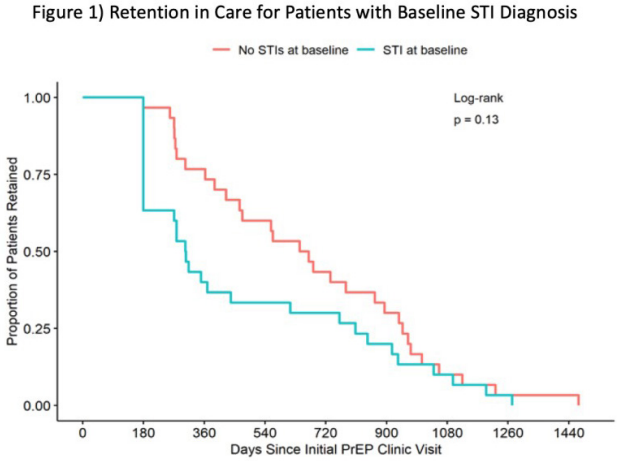
Results. A total of 255 patients attended at least one PrEP clinic encounter; 89% were men, 37% were Black, and 73% identified as men who have sex with men (MSM); 153 (60%) returned for at least one follow-up visit. Short and long term retention in care were met by 130/237 (55%) and 80/217 (37%) patients respectively. OR for retention are reported in Table 1. MSM are more likely to be retained in the short-term (OR 5.22 [95% confidence interval (CI) 1.57-17.32]). Self-referred patients were more likely to be retained in the long-term (OR 2.18 [95% CI 1.12-4.23]). Patients without insurance were less likely to attain long-term retention in care outcomes (OR 0.32 [95% CI 0.11-0.91]). STI diagnoses include 30 (12%) patients for a total of 42 unique infections at baseline and 44 (17%) for a total of 69 unique infections at follow up. Two new HIV diagnoses were made at first PrEP clinic encounter with no new diagnoses made at follow-up. Baseline STI was not associated with retention in care over time with disengagement defined as 6 mo post last visit (Figure 1).

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

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)**	1.46 (0.39-5.37)
No Insurance	0.50 (0.25-1.02)	**0.32 (0.11-0.91)**
Self-referred	1.18 (0.67-2.07)	**2.18 (1.12-4.23)**
HIV Positive Partner	0.89 (0.44-1.78)	1.66 (0.72-3.85)
35 and Under	0.87 (0.50-1.52)	0.59 (0.30-1.13)
Baseline STI	0.81 (0.35-1.86)	1.95 (0.73-5.18)

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.

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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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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, relating TFV-DP levels to HIV prevention efficacy: eg TFV-DP levels of < 350 (low), 350 to < 700 (medium) and ≥700 (high) fmol/punch were assumed to provide 0%, 86% and 98% HIV protection, respectively. This prior, combined with F/TDF seroconversion rate and TFV-DP levels, yields Bayesian inferences on the bHIV. In R, STAN was used to sample 10,000 realizations from the posterior distribution.