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PrEP in the Real World: Predictors of 6-Month Retention in a Diverse Urban Cohort

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Background

- Optimal PrEP adherence requires *retention in care*



- Outside of specialized HIV prevention programs, there is a paucity of data on factors that predict retention in PrEP care



Research Objective

- To determine the patient and health system factors associated with retention in care among PrEP users in a large, integrated, urban health system



New York City - Number of Persons Newly Diagnosed with HIV, 2010-2014

5 - 8	9 - 11	12 - 16	17 - 21	22 - 29	30 - 40	41 - 53	54 - 72	73 - 113	114 - 144
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Study Population

- Inclusion criteria:
 - HIV-negative individuals >18 years old
 - Prescribed TDF/FTC during 2011-2015
- Exclusion criteria:
 - Chronic active hepatitis B infection
 - TDF/FTC exclusively for PEP



Study Design

- Retrospective cohort analysis
- Manual chart review performed to obtain:

Baseline characteristics at time of initial PrEP prescription

- Social / Demographic
 - e.g. gender, race, ethnicity, insurance status
- Sexual / Behavioral
 - e.g. sexual orientation, HIV-related risk behaviors
- Provider / Health System
 - e.g. clinic setting, provider training level

Longitudinal follow-up data (through August 1, 2016)

- TDF/FTC Prescription Renewals/Refills
- Clinical Encounter Data
 - e.g. office visits, phone / web encounters



Outcome of Interest

6-month retention in PrEP care

- defined as having a PrEP **prescription** at 180 (+/- 60) days after PrEP start date



Statistical Analysis

- Bivariate logistic regression analysis done initially to identify variables associated with our outcome of interest



- Multivariable logistic regression model, adjusting for covariables significant ($p < 0.05$) in bivariate analysis



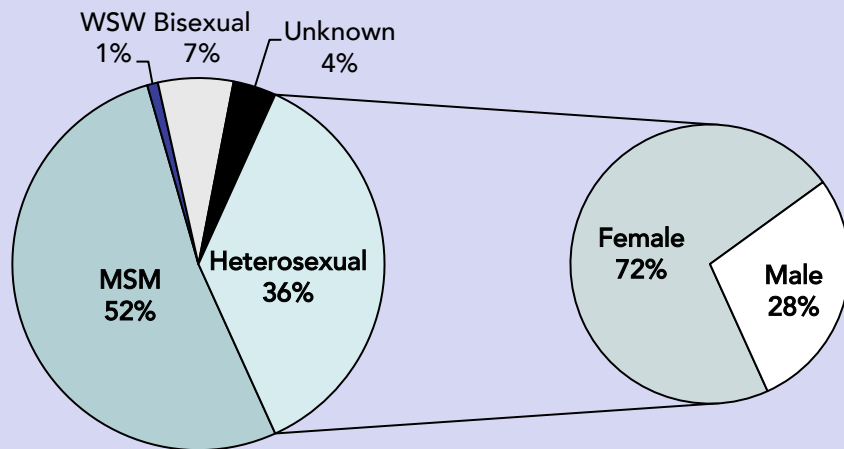
Baseline Characteristics: Demographic

Variable	N=107
Age in years, median (range)	28 (19 – 63)
Gender	n (%)
Female	30 (28.0%)
Male	74 (69.2%)
Transgender (M→F)	3 (2.8%)
Race / Ethnicity	n (%)
Hispanic	38 (35.5%)
Non-Hispanic Black	28 (26.2%)
Other / Not Reported	31 (38.3%)
Insurance	n (%)
Private	40 (37.4%)
Public (Medicare or Medicaid)	62 (58.0%)
Uninsured	5 (4.7%)



Baseline Characteristics: Sexual / Behavioral

Sexual Orientation



HIV Risk Behaviors

n (%)

Sex with known HIV+ Partner	58 (54.2%)
Condomless Intercourse	52 (48.6%)
Multiple Current or Anonymous Sex Partners	38 (35.5%)
Transactional Sex	4 (3.7%)
History of IVDU	4 (3.7%)
Prior nPEP	14 (13.1%)



Baseline Characteristics: Provider / Health System

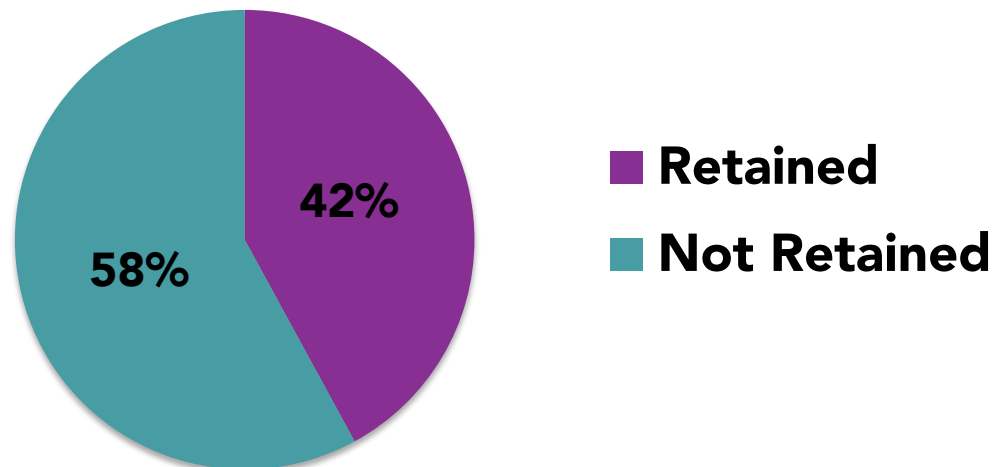
Variable	n (%)
Clinic Setting	
Primary Care (Internal Medicine or Family Medicine)	56 (52.3%)
Sexual Health Center	22 (20.6%)
Infectious Diseases (Adult or Pediatric)	17 (15.9%)
Adolescent Medicine	6 (5.6%)
OB/GYN	5 (4.7%)
Provider Type	
Attending Physician	76 (71.3%)
Trainee (Resident or Fellow)	19 (17.7%)
Nurse Practitioner	12 (11.2%)



Results – Overall Retention

**6-month retention was
42% (45/107)**

6-Month Retention in PrEP Care





Results: Bivariate Analysis of Factors Associated with 6-Month Retention

Variable	Unadjusted Odds Ratio (95% CI)
Age >25 (vs. age ≤25)	0.84 (0.36 – 1.94)
Female gender (vs. non-female)	0.49 (0.20 – 1.20)
Hispanic (vs. all other)	1.26 (0.34 – 4.68)
Non-Hispanic Black (vs. all other)	0.47 (0.11 – 1.95)
Heterosexual (vs. not heterosexual)	0.20 (0.08 – 0.50)
Any Sexual Partner HIV+ (vs. no documentation of HIV+ partner)	0.51 (0.23 – 1.10)
Main Sexual Partner HIV+ (vs. main partner not documented as HIV+)	0.38 (0.17 – 0.86)
Multiple Partners (vs. no documentation of multiple current partners)	2.32 (1.03 – 5.20)
Condomless Sex (vs. no documentation of condomless sex)	0.88 (0.41 – 1.89)
Prior nPEP (vs. no prior nPEP)	2.85 (0.88 – 9.18)
PrEP from Primary Care (vs. PrEP from any other setting)	0.92 (0.43 – 1.98)
PrEP Prescribed by Attending (vs. any other level provider)	5.78 (2.01 – 16.6)
Private Insurance (vs. any other insurance status)	1.98 (0.89 – 4.39)



Results:

Multivariable Analysis of Factors Associated with 6-Month Retention

Variable	Adjusted* Odds Ratio (95% CI)
Heterosexual (vs. all other sexual orientations)	0.23 (0.07 – 0.72)
PrEP Prescribed by Attending Physician (vs. any other level provider)	6.38 (2.08 – 19.6)

* Adjusted for the following covariables that were significant ($p < 0.05$) in bivariate analysis: sexual orientation, main partner HIV+, multiple sexual partners, provider type



Limitations

- Retrospective analysis with reliance on chart review for data collection
 - Variable detail in documentation of sexual / behavioral risk factors in provider notes
- PrEP prescription is only a proxy for retention
 - Prescription duration and timing likely to vary among PrEP providers



Summary of Key Findings

- Individuals who were documented as **heterosexual** were significantly **less likely** (aOR 0.23) to be retained in PrEP care at 6 months
- Individuals prescribed PrEP by an **attending physician** were significantly **more likely** (aOR 6.38) to be retained in PrEP care at 6 months



Future Directions

- Why might retention be lower among heterosexuals in this cohort?
- Why might retention be higher when PrEP prescribed by an attending physician?
- Need for larger prospective studies to better evaluate factors that impede or facilitate long-term engagement in PrEP care



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