From Cascade to Trickle: Reasons for Suboptimal PrEP Use among At Risk US MSM (HPTN 078)

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BACKGROUND

- PrEP decreases HIV acquisition in men who have sex with men (MSM), but remains underutilized.
- Successful strategies to scale up PrEP will require an understanding of barriers and facilitators of optimal use.

METHODS

- HPTN 078 used deep chain respondent driven sampling and direct recruitment to identify urban U.S. MSM who were not virally suppressed; 1,305 MSM were screened in Atlanta, Baltimore, Birmingham, and Boston in 2018.
- These analyses focus on MSM who were HIV- at screening and were at increased risk for HIV infection, based on CDC criteria.
- Participants filled out questionnaires that asked about sociodemographic and behavioral factors, as well as PrEP knowledge, attitudes and beliefs.
- Plasma tenofovir concentrations were measured on samples from all participants who indicated that they had used PrEP in the prior 12 months.
- Univariate and multivariable models were constructed to identify factors associated with having heard of PrEP, having used PrEP in the prior 12 months, and having protective plasma concentrations (>40 ng/ml).

TABLE 1: Sociodemographics of HIV- MSM in HPTN 078, by PrEP status

	Not risky*	Risky*	Risky, used PrEP**
	(N=87)	(N=267)	(N=43)
Age <= 35	49%	60%	81%
Black/African American	54%	42%	37%
Hispanic (non-Black)	10%	17%	9%
High school or greater ed.	52%	63%	81%
Had health insurance	78%	79%	93%
Annual income <$30,000	91%	87%	74%

*Per CDC criteria **in the past year

83% of 267 at risk urban U.S. MSM were not using PrEP. Only 7% had protective drug levels. Most had heard about PrEP, but economic issues and concerns about side effects impeded uptake.

RESULTS

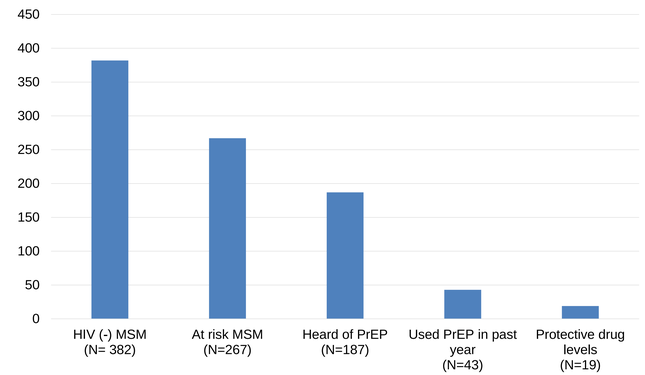
- Of 382 HIV- MSM, 267 (70%) met CDC risk criteria for PrEP use and 187 (72.5%) of the 258 without missing data reported hearing about PrEP. Only 43 (16.1%) of at risk MSM used PrEP in the past year.
- 60% of the 267 who met PrEP indications were aged 18 to 35 years old; 42% were Black, 17% Latinx; 37% had not been educated beyond high school; 21% lacked health insurance; 87% reported annual incomes below $30,000.
- Among those who reported using PrEP in the past year (N=43), 33 had blood data available, of whom 57.6% had protective blood levels
- **In multivariable models:**

-Factors associated with having heard of PrEP included: younger age (p=0.001), being White (p=0.012), post high school education (p=0.001).

-Factors associated with having used PrEP included: being employed (p=0.025), living in Baltimore (p=0.012), having health insurance (p=0.040), having increased self-perceived risk of acquiring HIV (p<0.001) and not being concerned about side effects (p=0.023).

-The only factor associated with having protective PrEP drug concentrations was not being concerned about side effects (p=0.007).

PrEP Cascade in Urban U.S. MSM



CONCLUSIONS

- Although the majority of 382 HIV- MSM recruited in four US cities met CDC risk criteria for PrEP, only 7% had protective drug levels.
- Most had heard about PrEP; those who heard about it were more likely to be younger, white, better educated.
- Economic factors (employment and health insurance), increased risk perception, and decreased concern about side effects were associated with PrEP use.
- The major correlate of having protective drug levels was not being concerned with side effects.
- This study suggests that strategies to increase effective PrEP uptake in US MSM will need to address socio-economic issues and misinformation about side effects, and should assist MSM in assessing their true HIV risk.

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