Monitoring PrEP Use Among Washington State MSM: Results of an Internet Survey

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Background

- Population-level data are needed to monitor use of pre-exposure prophylaxis (PrEP) and characterize the barriers to uptake and retention in PrEP care.
- **We report on the findings from an internet-based survey developed to monitor progress towards Washington (WA) State's target of 50% PrEP use among high-risk MSM.**

Methods

Sample and study design

- We recruited respondents for an online survey by placing English and Spanish advertisements on social media, geosocial networking, and general LGBTQ-interest apps and websites from 1/1/17 to 2/28/17.
- Respondents were randomized to 1 of 3 incentive arms: a $10 Amazon gift certificate, a $10 donation to charity, or no monetary incentive.
- Eligible respondents were cisgender male Washington residents age ≥16 years who had oral or anal sex with a man in the past 12 months and had never tested HIV+.

Measures

- Respondents were asked about awareness, interest, and use of PrEP. Men who had used PrEP reported their dates of use and whether they were currently taking it.
- PrEP candidacy was defined using Washington State's PrEP guidelines[1] (Table 1).
- We categorized respondents as residing in 1 of 3 regions of Washington (Figure 1).

Analyses

- We used a modified version of a published protocol[2] to flag and remove duplicate and invalid responses.
- To examine associations with current PrEP use, we conducted multivariable log-binomial regression with the following covariates, defined *a priori*: region, age, race/ethnicity, sexual orientation, education, income, and PrEP candidacy based on WA State guidelines.
- We used Kaplan Meier analysis to estimate time to PrEP discontinuation based on reported dates of most recent PrEP use, with current users' time censored at the date of survey completion.
- We compared our estimates of PrEP use with estimates from a survey administered at the 2017 Seattle Pride Parade.[3]

Figure 1: Regions of Washington



Table 1: Washington State PrEP Implementation Guidelines for MSM

Recommend PrEP for MSM who…	Discuss PrEP[c] with MSM who…
• Report use of meth or poppers[a], • Have been diagnosed with rectal gonorrhea or syphilis[a,b], • Provided sex in exchange for money or drugs[a], *OR* • Are in ongoing sexual partnership(s) with HIV-positive partner(s) who are not on ART, started ART≤6 months ago, or are not virally suppressed	• Report condomless anal sex (CAS) with a non-main/primary partner or with a partner of unknown or positive HIV status[a,d], • Have been diagnosed with urethral gonorrhea or rectal chlamydia[a], • Report use of non-prescription injection drugs[a], *OR* • Are in ongoing sexual partnership(s) with HIV+ partner(s) who have been on ART >6 months and are virally suppressed

[a]In the past 12 months; [b]The guidelines refer to a diagnosis of early syphilis. In this analysis, we consider any diagnosis of syphilis as an indication for PrEP. [c]Other indications for discussing PrEP not measured in the survey include being in a relationship with an HIV+ female partner trying to become pregnant, completing a course of non-occupational post-exposure prophylaxis, and seeking a prescription for PrEP. [d]Proxy measure for CAS outside of a long-term, mutually monogamous relationship with a man who is HIV-negative.

Results

Response rates and survey expenses

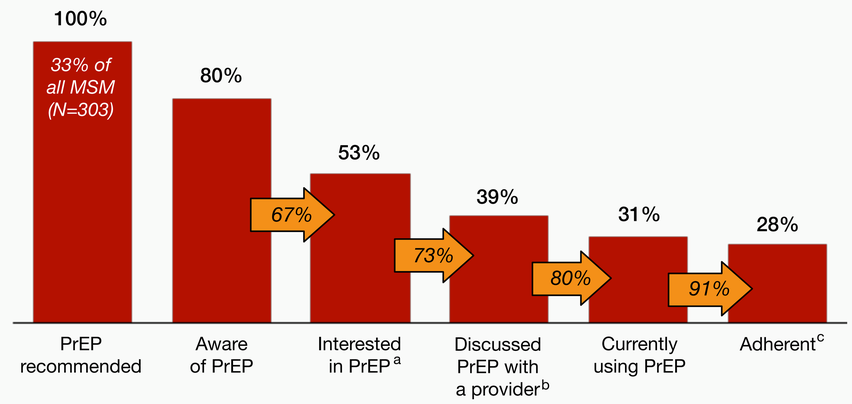
- We delivered 4.76 million banner ad impressions and 14 broadcast ads, which generated 25,927 clicks to the survey.
- 1,080 cisgender MSM completed the survey through initial questions about awareness and use of PrEP.
- Recruitment, incentives, translation, and survey administration costs totaled $23.16 per complete response.

Table 2: Characteristics of the sample

Demographic and social characteristics	n/N[a]	%
Region		
King County	610/1,080	56.5%
Other counties in western Washington	308/1,080	28.5%
Eastern Washington	162/1,080	15.0%
Age		
16 to 24	313/1,080	29.0%
25 to 34	351/1,080	32.5%
35 to 44	167/1,080	15.5%
45 to 54	128/1,080	11.9%
55 and older	121/1,080	11.2%
Race/ethnicity		
Hispanic	198/1,067	18.6%
Non-Hispanic white	725/1,067	67.9%
Non-Hispanic black	42/1,067	3.9%
Non-Hispanic other	102/1,067	9.6%
Gay/homosexual identity	889/1,076	82.6%
Education		
High school or less	176/1,065	16.5%
Some college/vocational school	364/1,065	34.2%
4-year college or higher	525/1,065	49.3%
Annual income >$100,000	215/930	23.1%
PrEP candidacy, awareness, and use	**n/N[a]**	**%**
WA State PrEP guideline category		
Not indicated	338/912	37.1%
Discuss	271/912	29.7%
Recommend	303/912	33.2%
PrEP awareness	852/1,080	78.9%
PrEP use		
Never	832/1,080	77.0%
Current	200/1,080	18.5%
Past	48/1,080	4.4%

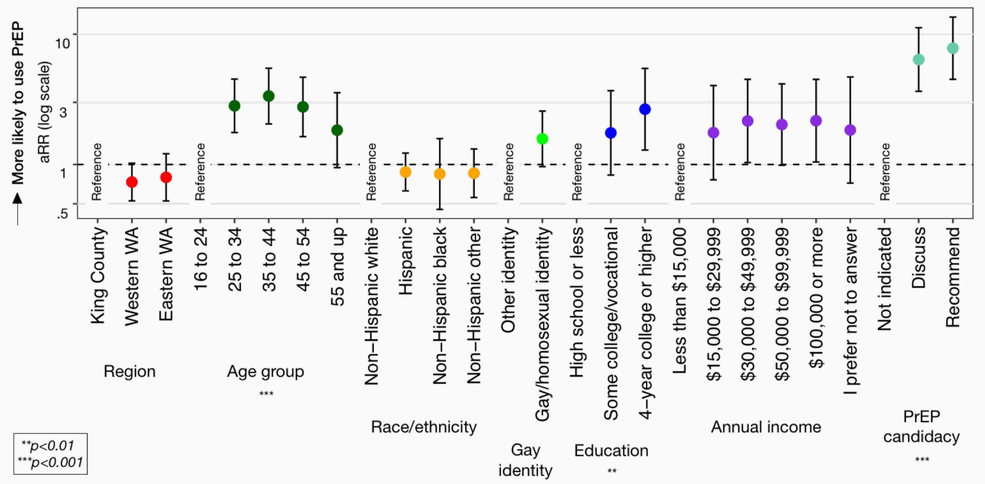
[a]Denominators may vary due to missing data.

Figure 2: PrEP care continuum among MSM for whom WA State guidelines recommend PrEP



[a]Includes men who had heard of PrEP and stated that they want to start taking it and men who are currently taking PrEP; [b]Indicates discussion of PrEP with a healthcare provider in the past 12 months by men who were interested in starting PrEP, and includes men who are currently using PrEP; [c]Corresponds to taking PrEP 27 or more out of the past 30 days.

Figure 3: Multivariable associations with current PrEP use (N=852)



Awareness, interest, and use of PrEP

- 79% of the sample had heard of PrEP, 19% reported current use, and 4% had used it in the past (Table 2).
- Among Seattle-area MSM, 21% reported current PrEP use, compared to 22% in the Seattle Pride survey.
- 33% of respondents met criteria for PrEP being recommended based on WA State guidelines; 31% of these men were taking PrEP (Figure 2), and of those who had never used PrEP, 56% wanted to start taking it.
- The top 3 reasons for not taking or not being interested in PrEP cited by men in the "recommend" PrEP category were perceived low risk of HIV, concern about side-effects, and cost or insurance barriers.

Correlates of current PrEP use

- In multivariable analysis, current PrEP use was associated with age, education, and PrEP candidacy (Figure 3).

PrEP discontinuation

- In Kaplan-Meier analysis, we estimated that 20% of men discontinue PrEP within 12 months of initiation (95% CI: 15%, 26%).

Conclusions

- **Awareness, interest, and use of PrEP are high among Washington State MSM, particularly among those at highest risk for HIV.**
- **Despite this success, survey data indicate substantial unmet need for PrEP. Many men, particularly young, less educated men, require additional information or assistance to access PrEP. We have not yet achieved our 2020 objective of 50% PrEP use among high-risk MSM.**
- **Our experience indicates that internet surveys are feasible, low-cost, and informative for monitoring PrEP use in MSM.**

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