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Using the andersen healthcare utilization model to assess willingness to screen for prep in pharmacy-based settings among cisgender sexually minoritized men: results from the 2020 american men's internet survey

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Abstract

Background Pre-exposure prophylaxis (PrEP) to prevent HIV is severely underutilized among sexually minoritized men (SMM). Inequitable access to PrEP-prescribing facilities and providers is a critical barrier to PrEP uptake among SMM. Integrating HIV prevention services, such as PrEP screening, into pharmacy-based settings is a viable solution to addressing HIV inequities in the US. We aimed to examine willingness to obtain PrEP screening in a pharmacy and its associated correlates, leveraging Andersen's Healthcare Utilization Model (AHUM), among a national sample of SMM in the U.S.

Methods Data from the 2020 American Men's Internet Survey, an annual online survey among SMM, were analyzed. Drawing on AHUM-related constructs, we used a modified stepwise Poisson regression with robust variance estimates to examine differences in willingness to screen for PrEP in a pharmacy. Estimated prevalence ratios (PR) were calculated with 95% confidence intervals ($CI_{95\%}$).

Results Out of 10,816 men, most (76%) were willing to screen for PrEP in a pharmacy. Participants were more willing to screen for PrEP in a pharmacy if they (1) had a general willingness to use PrEP (PR = 1.52; $CI_{95\%}$ =1.45, 1.59); (2) felt comfortable speaking with pharmacy staff about PrEP (PR = 2.71; $CI_{95\%}$ =2.47, 2.98); and (3) had HIV-related concerns (PR = 1.04; $CI_{95\%}$ =1.02, 1.06). There were no observed differences in men's willext

Introduction

e HIV epidemic in the U.S. disproportionately a ects populations at an increased risk of its acquisition and transmission, particularly cisgender sexually minoritized men (SMM), people who inject drugs, and transgender women. In 2021, SMM accounted for approximately 70% of all new HIV diagnoses, constituting 63% of all people with HIV nationwide.

Pre-exposure prophylaxis (PrEP) stands as one of the most e ective tools in preventing HIV. Taken daily, it can substantially reduce the risk of acquiring HIV, up to 99% [1]. Despite its e ectiveness, PrEP remains severely underutilized, especially among groups who might benefit from it the most, especially racially and sexually minoritized individuals. Disturbingly, 2020 data from the Centers for Disease Control and Prevention (CDC) indicate that less than 25% of the 1.2 million people who could have benefited from PrEP actually received a prescription [2]. Furthermore, racial inequities in PrEP uptake persist, with Black Americans being more than seven times less likely to have obtained a PrEP prescription compared to their White counterparts in 2022 [3]. At the intersection of race and sexuality, studies underscore compounded inequities in PrEP uptake among Black SMM (BSMM), where recent data shows that only 26% were on PrEP as compared to 42% of White SMM [4].

Structural barriers play a critical role in impeding PrEP utilization, notably through inequitable access to PrEP-prescribing facilities and providers [5–7]. For example, studies reveal that a considerable proportion of PrEP-eligible SMM reside in areas termed “PrEP deserts,” where the nearest PrEP provider is at least a 30-minute drive away [6]. Harrington and colleagues’ recent geospatial analysis illustrates that areas with the highest HIV incidence rates, particularly in the US Southeast, notably lack PrEP-prescribing clinics [5]. Further, traditional healthcare providers, including many primary care physicians, often lack the awareness and knowledge of PrEP, posing a barrier to prescribing it, especially for populations at increased risk of HIV acquisition such as SMM [8, 9].

To address these access barriers, integrating HIV prevention services such as PrEP screenings into pharmacies emerges as a promising, yet underexplored strategy [10]. Pharmacies boast high accessibility, with most Americans residing within 5 miles of one; people generally visit them about three times a month; and, most have extended operating hours beyond those of traditional healthcare facilities [10]. It has also been documented that pharmacies—particularly community pharmacies—are generally located in areas that experience the highest burden of

Analysis plan

Sample characteristics were described with medians and interquartile ranges (IQRs) for continuous variables and frequencies for categorical variables. Wilcoxon rank tests were performed to examine di erences in median age among those who reported willingness to obtain PrEP in pharmacies versus not. Chi-square and Fisher's exact (when sample sizes were < 5) tests were performed to explore di erences by the included AHUM measures for the main outcome. Bivariate analyses were conducted to explore di erences in willingness to be screened for PrEP in pharmacies by the three AHUM domains.

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Table 1

that being of younger age was associated with less willingness to screen for PrEP in a pharmacy setting. Among enabling factors, those who had a general willingness to use PrEP and felt comfortable discussing PrEP with pharmacy sta were more willing to screen for PrEP in pharmacies. Participants who were reported being retired were less willing to screen for PrEP in a pharmacy compared to those who were employed. Finally, being worried about potentially acquiring HIV was the only need factor linked to willingness to screen for PrEP in a pharmacy-based setting.

prevention services. Indeed, in a previous study, Lutz et al. report that approximately 94% of participants felt comfortable discussing PrEP with a pharmacist prior to starting the medication [29]. is underscores the importance of pharmacist training and ensuring patient privacy to foster a supportive environment for discussing sensitive topics related to HIV prevention. Additionally, addressing social stigma and discrimination remains a critical piece in enhancing HIV prevention e orts, particularly among populations like BSMM. Pharmacies, perceived as less stigmatizing and more convenient settings than traditional clinics, [12, 29, 30, 31, 32] hold significant promise in mitigating the impact of stigma on HIV prevention access and uptake.

In this study, we employed Andersen's Behavioral Model of Health Service Utilization as a comprehensive framework for understanding the factors influencing willingness to obtain HIV prevention services in pharmacies among SMM. is model allowed us to consider the impact of various predisposing, enabling, and need factors on individuals' access to and use of pharmacy-based PrEP screening.

Previous intervention studies have demonstrated the feasibility of implementing HIV testing and PrEP access in pharmacies, e ectively reaching populations with increased needs [10, 33]. For instance, one study found that pharmacy-based point-of-care HIV testing, including pretest counseling, test processing, and

posttest counseling, was feasible within a 30-minute period in 21 pharmacies across both rural and urban areas in the U.S. [

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Authors' contributions
DA conceptualized the idea of the study, and led the analysis and writing of the manuscript. GE, KH, TS, NC contributed to the concept development, and review and editing of the manuscript. AQ and HY contributed to the review and editing of the manuscript. TS contributed to funding acquisition and data curation. NC provided supervision over the manuscript. All authors have seen and approved the final version of the manuscript for publication.

27. Babel RA, Wang P, Alessi EJ, Raymond HF, Wei C. Stigma, HIV risk, and access to HIV prevention and treatment services among men who have