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Sexually Transmitted Infection Testing Among Unstably Housed, Sexually Active Persons with HIV in the United States, 2018-2019

Ruthanne Marcus[1], **Yunfeng Tie**[1], **Sharoda Dasgupta**[1], **Stacy M. Crim**[1], **Linda Beer**[1], **Samantha P. Williams**[2], **John Weiser**[1]

[1]Behavioral and Clinical Surveillance Branch, Division of HIV Prevention, Centers for Disease Control and Prevention, Atlanta, GA

[2]Behavioral Science and Epidemiology Branch, Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA

Abstract

Unstably housed sexually active people with HIV (PWH) experience both a high incidence of sexually transmitted infections (STIs) and barriers to annual STI screening recommended by CDC guidelines. We used Medical Monitoring Project data to describe STI testing among unstably housed PWH by attendance at Ryan White HIV/AIDS Program-funded facilities.

Short Summary:

Sexually transmitted infection testing is suboptimal among unstably housed, sexually active people with HIV, especially in non-RWHAP-funded facilities.

Keywords

homelessness; HIV; STI testing; unmet needs; patient-centered medical home

Introduction

During 2018–2019, over 20% of people with diagnosed HIV (PWH) were unstably housed during the previous 12 months, defined as those who reported being literally homeless, moving in with others due to financial problems, experiencing frequent moves, or being evicted.[1] PWH who experience unstable housing have worse HIV outcomes, including lower levels of retention in care, antiretroviral therapy adherence, and viral suppression, than PWH with stable housing.[2] Furthermore, PWH experiencing unstable housing may be more likely than stably-housed PWH to engage in sexual behaviors, such as exchange sex or condomless sex, that are associated with transmission of sexually transmitted infections (STIs).[3, 4] Youth, aged 13-24, are particularly vulnerable to unstable housing[5] and STIs[6]. Estimated prevalence of STIs among people experiencing homelessness range from 2.1%

Corresponding Author: Ruthanne Marcus, PhD, MPH, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, GA, USA; ram1@cdc.gov.

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to 52.5%.[7] STIs increased sharply, overall, from 2015-2019[6] and among PWH from 2012-2016.[8] Bacterial STIs can increase HIV shedding in PWH, potentially facilitating HIV transmission[9] and challenging efforts to end the HIV epidemic. National guidelines recommend annual STI testing for many people with HIV.[10] Providing prevention services and treatment for people with co-occurring STIs and HIV can improve clinical outcomes.

A previous study found that men who have sex with men (MSM) with HIV were more likely to receive recommended STI testing if they received HIV care at a facility funded by the Ryan White HIV/AIDS Program (RWHAP) versus MSM with HIV receiving care at non-RWHAP-funded facilities[11], but little is known about receipt of STI testing for PWH with unstable housing at RWHAP funded and non-funded facilities. We used CDC Medical Monitoring Project (MMP) data to examine differences in STI testing among sexually active, unstably housed PWH receiving care at RWHAP-funded vs. non-RWHAP-funded facilities.

Methods

The Medical Monitoring Project provides nationally representative estimates of behavioral and clinical characteristics of adults with diagnosed HIV in the United States. MMP methods have been previously described,[12] but briefly, MMP uses a complex survey design with a two-stage sampling methodology to report nationally representative estimates. In the first stage, 16 states and Puerto Rico were sampled from all 50 U.S. states, the District of Columbia, and Puerto Rico; in the second stage, random samples of adults with diagnosed HIV are selected from each jurisdiction from the National HIV Surveillance System, a census of all persons with diagnosed HIV in the United States. During the 2018-2019 MMP data cycles, the response rate was 100% at the first stage and 45% at the second stage. We analyzed data from the 2018-2019 MMP cycles, obtained by telephone and in-person interview and medical record abstraction (MRA) at the usual place of HIV medical care, to estimate the prevalence of STI testing during the past 12 months among PWH with unstable housing who received HIV care at RWHAP-funded vs. non-RWHAP-funded facilities.

PWH were defined as unstably housed if they reported living on the street, in a shelter, in a single-room occupancy (SRO) hotel, or in a car, or if they reported moving in with others due to financial issues, moving ≥2 times, or being evicted in the past 12 months.[13] Persons were defined as sexually active if they reported any vaginal or anal sex in the past 12 months. STI testing included testing for syphilis, gonorrhea (at any anatomical site) and chlamydia (at any anatomical site) documented in the medical record provided at the most frequent source of HIV care. Facility RWHAP funding was defined as receipt of any RWHAP funding at the beginning of the data collection cycle. Persons included in the analysis were unstably housed and sexually active, received care at a facility with known RWHAP funding status and had an MRA (N=981). We reported weighted percentages with 95% confidence intervals (CI) of unstably housed sexually active PWH who received STI testing in the past year. We used logistic regression to compute prevalence ratios using predicted marginal means, as well as 95% CIs, for STI testing at RWHAP-funded vs. non-funded facilities (statistical significance defined as $P<.05$). All analyses were conducted using SAS, version 9.4 (SAS Institute, Cary, NC), and SAS-callable SUDAAN,

version 11.0.3 (RTI International, NC). MMP is deemed public health surveillance and thus Institutional Review Board approval was not obtained, although participating jurisdictions may choose to obtain local approvals. Informed consent was given by all participants.

Results

Overall, 44% (95% CI: 39–48) of sexually active, unstably housed PWH received testing for all three STIs: (syphilis: 63% [95% CI: 58%-67%], gonorrhea: 48% [95% CI: 44%-53%], chlamydia: 48% [95% CI: 44%-53%]) (Figure); 78% (95% CI: 71%-84%) received care at a RWHAP-funded facility. People who received care at RWHAP-funded facilities were more likely than those at non-RWHAP-funded facilities to receive STI testing (48% vs. 29%; prevalence ratio [PR] 1.64; 95% CI: 1.22-2.20): syphilis (67% vs. 47%; PR 1.42; 95% CI: 1.20-1.68); gonorrhea (53% vs. 32%; PR 1.69; 95% CI: 1.27-2.24); chlamydia (53% vs. 32%; PR 1.64; 95% CI: 1.25-2.17). *P*-values for all PRs <.001.

Discussion

Despite recommendations, less than half of unstably housed PWH received all three STI tests during the 12 months prior to their interview. Risk for STI and HIV co-infection is associated with social determinants such as housing instability, creating the need for a comprehensive approach to prevention and treatment.[14] The STI strategic plan[14] emphasizes the importance of integrating STI prevention, testing, and linkage to care, especially in traditional and non-traditional health care settings.

Health care system barriers to STI testing, including a heavy provider workload and limited availability of support staff to assist with routine activities such as ordering STI tests, could contribute to the low prevalence of recommended testing. Possible strategies to address these barriers include assigning STI test ordering responsibility and specimen collection to nursing staff and embedding clinical decision support or “nudges”[15] into provider workflow. Clinical decision support or nudges, which include electronic alerts and reminders for providers, condition-specific order sets, and provider-specific reports on past performance, can be relatively simple to implement, low cost, and effective. Another opportunity for increasing STI testing in care settings, including in HIV clinics, is specimen self-collection for gonorrhea and chlamydia. Self-collection for STIs has been shown to be an acceptable, trauma-informed, easy, and accurate method of testing for PWH, based on several previous studies.[16, 17] Perhaps providing STI testing at drop-in centers “on-demand” without pre-scheduled appointments, as has been initiated for HIV care[18], could provide low-barrier, convenient options for STI testing. Additionally, screening by clinical and social service providers for social determinants of health, particularly housing status, but also sexual activity and other behavioral characteristics, can assist in identifying persons in need of services which, if co-located with HIV care and STI testing, could improve clinical outcomes. Recording patient-reported social determinants of health and sexual behaviors that trigger electronic health record decision support messaging could also encourage providers to order STI tests.[19]

RWHAP-funded facilities provide a model of comprehensive services for PWH including case management[20] to improve linkage to social services, such as housing services. These patient-centered medical homes may also provide behavioral health services, primary health care, and HIV/STI screening and treatment in one location, which can alleviate barriers for persons experiencing unstable housing.[21] Most RWHAP-funded facilities are community health centers, hospital-based facilities, or state or local health departments, compared to non-RWHAP-funded facilities, which are nearly all private practices.[20] Differences in provider oversight, quality monitoring, and leveraging of electronic health records for decision support between these types of facilities may contribute to the higher levels of STI testing we observed at RWHAP-funded facilities. Expanding the RWHAP model of HIV care could increase STI testing among unstably housed PWH and improve comprehensive, integrated care.

Strengths of our study included population-based sampling and weighting designed to produce nationally representative estimates of a wide range of sociodemographic and clinical characteristics of adults with diagnosed HIV. The large sample size allows reasonably precise estimates. Although not all sampled persons participated, results were adjusted for nonresponse using the standard methodology.[12] Even with suboptimal response rates, there is still value in results obtained from unbiased sampling methods. Our study had limitations. We did not capture STI tests ordered at outside facilities (e.g., STI clinics) and not documented in the medical record at the usual place of HIV care, which may have resulted in underestimation of testing prevalence.[22] However, our findings accurately describe the information available for clinical decision-making at the primary place of HIV care. Moreover, the prevalence of STI testing among unstably housed PWH might have decreased during the COVID-19 pandemic and requires further evaluation.

Conclusions

STI testing for sexually active unstably housed PWH falls short of national recommendations, particularly at non-RWHAP-funded facilities. Addressing the syndemic of HIV, STIs, and housing instability requires fulfilling the unmet needs for care using a comprehensive approach to service delivery, such as one offered by RWHAP-funded facilities. These facilities provide a patient-centered medical home that integrates HIV/STI testing and care with social services, which decreases barriers for persons experiencing unstable housing.

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Conflict of Interest and Source of Funding:

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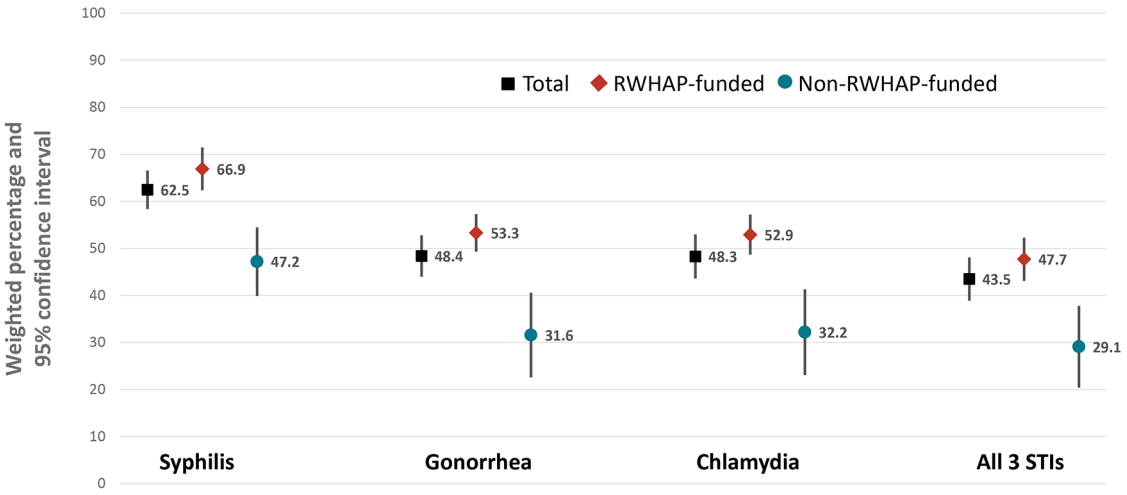

STI Testing in the Past 12 months Among People With HIV Experiencing Unstable Housing by HIV Care Facility Ryan White HIV/AIDS Program Funding Status, 2018-2019

RWHAP = Ryan White HIV/AIDS Program

P vales for all comparisons of STI testing at RWHAP funded vs. non-funded facilities were <.05