

Pre-exposure Prophylaxis for HIV—An Opportunity for the Global Control of Sexually Transmitted Infections

To the Editors:

Men who have sex with men (MSM) are disproportionately affected by sexually transmitted infections (STIs) that are often extragenital and asymptomatic.¹ STIs therefore can remain undiagnosed and untreated, leading to ongoing transmission. Providing ready access to health services is a cornerstone of infection control. A recent systematic review highlighted the high prevalence and incidence of STIs among PrEP users globally² in comparison with non-PrEP users.³ This may be partly explained by observations of decreasing consistency of condom use since the roll-out of HIV PrEP.⁴ This poses an unprecedented opportunity for PrEP programs to offer a more comprehensive sexual health service to MSM at risk of both HIV and other STIs.

There is growing interest globally to implement PrEP. As of July 2020, 78 countries reported PrEP users and 62 of these 78 countries have PrEP programs.⁵ Integration of comprehensive STI screening service into all PrEP programs may mitigate the rise in STIs, particularly among MSM groups.⁶

To provide a global overview of STI screening services recommended within PrEP programs, we reviewed regional and national HIV PrEP guidelines collated by PrEPWatch,⁵ a comprehensive database of PrEP programs and associated national guidelines. All available guidelines specified criteria for those eligible for PrEP. These included subpopulations of MSM, transgender women, serodiscordant couples, commercial sex workers, people who

inject drugs, and adolescent girls and young women engaged in transactional sex. In April 2020, 2 authors (M.U., J.O.) independently assessed all PrEP guidelines for recommendations for STI screening for the MSM population on initiation of PrEP, frequency of STI screening for ongoing PrEP users, testing assays, anatomical site(s) of specimen collection, use of rapid testing, and any recommendations for antimicrobial resistance testing.

Figure 1 shows that of 62 countries with PrEP programs, 18 had national guidelines on HIV PrEP or mentioned PrEP as a possible tool in the prevention of HIV. Nine of 18 guidelines were from high income countries. Of the 9 that were from high income countries, 7 (Australia, Canada, England, Ireland, New Zealand, USA and Wales) mentioned testing specifically for MSM using PrEP. More details of the guidelines are shown in Supplemental Digital Content Table 1, <http://links.lww.com/QAI/B578>. Each guideline was consistent in their recommendations of STI testing for MSM: 3 monthly STI testing, with specified pathogens, testing assays, and anatomical sites including extra-genital testing. PrEP guidelines from low- and middle-income countries did not have STI testing recommendations for MSM.

The sole guideline from a low-income country (LIC), 4 guidelines from lower middle-income countries (LMICs), and 4 guidelines from upper middle-income countries (UMICs) recommended STI screening for all PrEP users; however, there was no guidance on pathogens, testing assays or anatomical site(s) of collection. Recommendations for frequency of STI screening varied. One

recommended STI screening only if the PrEP user was symptomatic (Uganda), 3 recommended STI screening every 3 months and one recommended STI screening every 6 months. Two recommended STI screening at baseline with no further recommendations for follow up visits. The remaining guideline did not specify a frequency for STI screening (Namibia). There were 3 guidelines that recommended rapid testing for syphilis (Namibia, South Africa and Zambia).

These inconsistencies in STI testing recommendations for PrEP users who are MSM in LMIC countries draws our attention to several issues. First, the lack of consensus may reflect difficulties in accessing diagnostics and the high costs of systematizing STI screening in resource-constrained settings. Improving access to cheaper, quality-assured, and accurate STI diagnostics is a critical area for future development.

Second, we found limited supporting evidence for recommendations for the frequency of STI screening for PrEP users. The Canadian national HIV PrEP guideline for Canada refers to the “Guidance for the use of PrEP in the British Columbia” for their STI screening recommendations. This guideline recommends three-monthly STI screening particularly in the MSM population, referencing a recent US analysis⁷ that found that screening conducted only twice a year or based on symptoms in MSM and transgender women on PrEP would lead to a delay in diagnosis and treatment for 20.4%–41.0% of bacterial STIs (syphilis, gonorrhea, and chlamydia) extending the period of

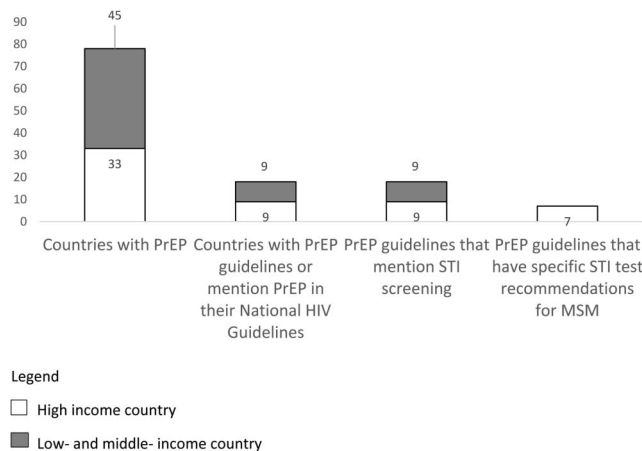


FIGURE 1. High-income country; Low- and middle- income country.

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infectivity by up to 3 months per case. This is consistent with a US modelling study suggesting that three monthly rather than six monthly screening among MSM using PrEP would decrease STI incidence.⁶ This study found that increasing the frequency of STI screening to 3 monthly would improve detection and treatment of asymptomatic urethral and rectal infections, resulting in a 50% reduction in STI incidence. No supportive data for frequency of syphilis screening was cited in any of the PrEP guidelines. However, the implementation of 3 monthly syphilis screening in MSM could enable earlier detection of syphilis and reduce the risk of transmission and/or progression to serious complications at the population level.⁸ Furthermore, a US study found that nearly a quarter of MSM with secondary syphilis had more than one provider visit for the same symptoms before diagnosis, suggesting missed opportunities for diagnosis.⁹

Third, in all PrEP guidelines there was a notable absence of recommendations for antimicrobial resistance susceptibility testing. A systematic review and meta-analysis found there was a high burden of STIs among individuals on PrEP, with a higher prevalence of gonorrhea in studies that enrolled MSM only compared with studies also containing non-MSM populations.² The incidence of gonorrhea was also found to be higher in oropharyngeal sites than in genital sites. This can serve as a reservoir for antimicrobial resistant gonorrhea to develop. This remains a critical area for attention as gonorrhea may become untreatable in the near future.¹⁰ With higher positivity rates expected from STI testing, PrEP users could be an ideal group for sentinel surveillance for antibiotic-resistant STIs.

Finally, the high prevalence and incidence of STIs among PrEP users globally calls for an opportunity to look into potential PrEP-STI pathways focusing on prevention and treatment of STIs. Of 62 countries that had PrEP programs, only 18 had national guidelines on HIV PrEP or mentioned PrEP as a possible tool in the prevention of HIV. Through evaluating the different national HIV PrEP guidelines where available, there were countries (notably from LIC) that

still recommend syndromic treatment of STIs to allow for prompt initiation of STI treatment at first contact with clients, reduce delays in diagnosis and decrease the burden of laboratory testing. Aside from appropriate treatment where available, The World Health Organization (WHO) also recommends effective case management, particularly those in high-risk groups such as MSM and sex workers. This includes promotion and/or provision of condoms, partner notification, treatment and clinical follow-up.¹¹ The limited number of guidelines for HIV PrEP available globally highlights a key opportunity for the development of national and local guidelines that also incorporates recommendations for STI testing, prevention, and treatment.

In conclusion, all countries with national PrEP guidelines recommended STI testing for PrEP users. Most PrEP guidelines from HICs provided specific recommendations for STI screening for MSM, including a three-monthly screening interval. Consistent recommendations for comprehensive STI testing for MSM within all PrEP programs may help improve access to STI testing for this high-risk population. Clearer guidance for STI testing for MSM (and other relevant subpopulations) using PrEP in LMICs must be balanced against a range of considerations, including striking a balance between the need to increase the coverage of PrEP to as many who need it and the risk of overburdening these programs with additional requirements. If designed correctly, there is potential for economies of scale and scope to package both HIV prevention and comprehensive STI screening for all PrEP users.

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