

BIG IDEAS

ENDING THE HIV EPIDEMIC —
SUPPORTING ALL PEOPLE WITH HIV AND REDUCING NEW INFECTIONS

HIV PREVENTION AND CARE SYSTEMS HAVE CRITICAL ROLES IN ADDRESSING SEXUALLY TRANSMITTED INFECTIONS

THE UNITED STATES IS FACING A SERIOUS CRISIS of increasing rates of many sexually transmitted infections (STIs). Indeed, our national underinvestment in STI prevention, care, and research may be contributing to the high prevalence of some STIs in the population as a whole or among certain sub-populations. The tools available to diagnose STIs are often lacking in that they generally require sending specimens away for laboratory analysis and waiting days for results, whereas point-of-care tests exist for many other conditions such as HIV and strep throat (streptococcal pharyngitis) that enable rapid diagnosis often on the spot (even if confirmatory testing may be needed for positive results). There are limited medications to treat many common STIs, and some medications have been in use for decades and are losing effectiveness. Insufficient investments in STI public health surveillance and information technology often mean that public health officials and providers cannot fully describe factors contributing to increases in STIs. Additional resources are needed to understand and analyze transmission dynamics within sexual networks to develop more effective interventions.

HIV is a serious STI for which separate prevention and care systems have developed. Although many stakeholders advocate for de-siloing public health programs, completely merging funding and programs for HIV and STI prevention and care would not necessarily lead to improved outcomes. Moreover, the

HIV PROGRAMS CAN STRENGTHEN STI PREVENTION AND CARE

The Ending the HIV Epidemic (EHE) Initiative is creating new momentum to improve HIV outcomes and reduce HIV transmission. The forthcoming STI Federal Action Plan presumably will recommend that HIV programs do much more to respond to STIs. Key actions for HIV programs include:

- **HIV Prevention and Care Programs Need to Conduct More STI Screenings**
- **HIV and STI Programs Can Jointly Adopt Best Practices for Promoting Sexual Health**
- **HIV Surveillance and Research Initiatives Need to Strengthen the STI Response**

BETTER INTEGRATING STI AND HIV SERVICES AT THE CLIENT LEVEL CAN IMPROVE RESULTS.

THE ROLE OF STIs IN HIV TRANSMISSION

Men who have sex with men (MSM) are very disproportionately impacted by HIV and other common STIs. The evidence is strong that chlamydia and gonorrhea infection contribute to HIV infection, but population-level estimates of the role these STIs play in HIV transmission have not existed until recently. In 2019, researchers at Emory University and CDC published a modeling study based on HIV and STI transmission dynamics and current epidemiological trends.

10.2% of HIV infections among MSM are believed to be attributable to infection with chlamydia or gonorrhea.

This estimate is derived from the sum of infections caused by the HIV negative or positive partner (or both) being infected with chlamydia and/or gonorrhea. Since these STIs contribute significantly to both transmission and acquisition, this calls for status neutral public health responses that better screen and treat both individuals living with HIV and HIV negative persons.

Primary and secondary syphilis diagnoses among MSM also are strongly associated with HIV infection, although it is unclear the extent to which syphilis is contributing to HIV acquisition or reflects the characteristics of the sexual networks where both high levels of HIV and syphilis are present. Further, STI co-infection among people with HIV has been associated with increased HIV viral load and a greater risk of transmitting HIV to HIV negative sexual partners.

SOURCES: (1) Jones J, et al. Proportion of incident human immunodeficiency virus cases among men who have sex with men attributable to gonorrhea and chlamydia: A modeling analysis. *Sex Transm Dis* 2019;46(6):357-363. (2) Buchacz K, et al. HIV incidence among men diagnosed with early syphilis in Atlanta, San Francisco, and Los Angeles, 2004 to 2005. *J Acquir Immune Defic Syndr* 2008;47(2):234-240. (3) Jarzebowski W, et al. Effect of early syphilis infection on plasma viral load and CD4 cell count in human immunodeficiency virus-infected men: Results from the FHDH-ANRS CO4 cohort. *Arch Intern Med* 2012;172(16):1237-1243.

challenge of STI prevention and control is much larger than merging funds with HIV, as there are more than fifty times as many cases of syphilis, gonorrhea, and chlamydia diagnosed in the US each year as HIV.^{1,2} At the same time, integration of comprehensive sexual health services at the client level can yield important

improvements in health outcomes. HIV prevention and care programs are reaching people in need of STI screening and are reaching people who may have been exposed to STIs. Successful models for state and local program collaboration can involve resource sharing with a strong commitment by senior public health leadership to support HIV and STI program synergies and sexual health service integration at the client level.

The Trump Administration is developing a first-ever STI Federal Action Plan, and earlier this year, the President announced a new Ending the HIV Epidemic (EHE) Initiative to reduce new HIV infections by 90% within ten years. These tandem efforts only increase the impetus to focus more on aligning HIV and STI prevention and care services, as well as HIV and STI research programs. There are at least three areas where HIV programs can contribute more to STI prevention and control:

1. HIV PREVENTION AND CARE PROGRAMS NEED TO CONDUCT MORE STI SCREENINGS

For decades, HIV testing has been a central component of a comprehensive HIV prevention strategy. In 2016, 86% of all people with HIV in the US had been diagnosed.³ Recent policy changes have facilitated greater routinization of HIV screening through opt-out testing (without individualized written consent) and population-based screening wherein all people coming in for clinical care are offered HIV testing (not only those with a disclosed risk factor). The US Preventive Services Task Force (USPSTF) has given population-based HIV screening its strongest rating, which makes it free-of-charge to privately insured individuals and persons in many Medicaid programs. Many of these approaches also could increase STI screening coverage and frequency. While STI funding limitations may lessen the capacity to adopt some such strategies, more can be done through third-party payers (i.e. private insurers and public insurers such as Medicaid) and HIV programs.

There is evidence that insurance programs are not doing enough to support screening for STIs according to existing guidelines. Regular STI screening is a critical part of pre-exposure prophylaxis (PrEP) care, but it is unclear how closely providers are following these guidelines. A study of 15 safety net clinics in San Francisco found that provider adherence to PrEP monitoring guidelines was “sub-optimal”.⁴ When starting PrEP, providers did not order gonorrhea, chlamydia, or syphilis testing for roughly one of five patients. Despite recommended follow-up STI screening at least every 6 months, STI testing was not ordered one-third of the time. In a nationally representative sample of people with HIV in care in 2016, fewer than 40% received at least one test for

PRIORITIZING YOUNG PEOPLE IN HIV AND STI PREVENTION

Adolescents and young adults have the highest STI rates of any age group, and many are also at high risk for HIV infection. While young people aged 15 to 24 comprise only a quarter of sexually active people, they account for half of all new STI diagnoses in the US. Young people aged 13 to 24 also account for one-fifth of new HIV diagnoses in the US. Young people experience high rates of HIV and STIs for several reasons:

- **Behavioral Factors:** Some behaviors that put young people at higher risk include low HIV and STI testing rates, substance use, low rates of condom use, and multiple sex partners.
- **Biological Factors:** Young women's bodies are biologically more prone to STIs. For some STIs, like chlamydia, young women may have increased susceptibility to infection. Having an STI also can significantly increase a person's chance of getting or transmitting HIV.
- **Social Factors:** Stigma, embarrassment, and fear make it difficult for many young people to talk openly and honestly with health care providers about their sex lives and access the services they need.
- **Encouraging Providers to Tackle Sexual Health:** Providers need to be proactive in talking to young people about sexual health, assessing their risk for HIV and STIs, and providing appropriate screening, including at least annual STI screening of all sexually active young women under 25 years old and sexually active gay and bisexual men of all ages;
- **Expanding Screening Venues:** Attention is needed to expand HIV and STI screening in nontraditional care settings and youth friendly spaces;
- **Expanding Options for Receiving Services:** Treatment access can be improved by promoting the use of express clinic visits, extended clinic hours, tele-health appointments, and self-collected specimens to reduce barriers to accessing HIV and STI services; and
- **Protecting Confidentiality:** It is important to address concerns of young people by counseling them on their rights (and limitations to their rights) to confidentiality, arranging clinic space to protect privacy, and maintaining confidentiality (to the extent possible) in health care billing and insurance claims.

Key considerations for policy formulation and program implementation include:

- **Getting Information to Young People:** This includes implementing comprehensive sexual health education in schools, disseminating information through youth serving organizations and online platforms, and funding awareness campaigns that speak directly to young people;

each of gonorrhea, chlamydia, and syphilis in the preceding year, and the high point estimate rose to only 45% among those who were sexually active.⁵ Further, extragenital screening for STIs (i.e. screening of the mouth and rectum, which are common sites of asymptomatic infection) is recommended, but fewer than one in five MSM in this dataset were tested extragenitally from 2015-2016.⁶

ACTIONS FOR IMPACT:

- When screening for either HIV or bacterial STIs (chlamydia, gonorrhea, and syphilis), integrated HIV-STI screening should be the default practice. The Centers for Disease Control and Prevention (CDC) should review its guidance for all programs funding HIV screening and explore options to ensure that HIV funds can be used to pay for recommended STI screening as part of an integrated HIV-STI testing encounter.
- CDC, along with the Health Resources and Services Administration (HRSA) that administers the Ryan White HIV/AIDS Program and the Federally Qualified Health Centers Program, should set goals for increasing client-level HIV-STI screening program integration and improving provider adherence to screening guidelines for both individuals with HIV and persons who are HIV negative. This should include working with the Centers for Medicare and Medicaid Services (CMS), Medicaid programs, and insurance marketplaces to broaden knowledge of practice standards and increase recommended STI screenings.
- To enhance reimbursement of recommended screening by third-party payers, CDC's Divisions of STD and HIV Prevention should work with public and private entities to ensure that quality measures (i.e. HEDIS measures and National Quality Forum measures) and USPSTF recommendations are aligned with CDC guidelines. In the case of USPSTF, review of

the evidence for regular STI screenings among MSM, as a separate population, should be requested.

- Consumers need more and better choices for when, where, and how to be screened for STIs. Promising models for simplifying STI screening delivery (i.e. express visits in health care or prevention settings and pharmacies, along with app-based approaches and self-collection testing kits) need to be quickly brought to scale. Relatedly, there is an urgent need for more STI point-of-care diagnostics to be developed and cleared by the Food and Drug Administration (FDA). The National Institutes of Health (NIH) working with FDA and CDC should develop and fund an aggressive timeline for expedited development of STI point-of-care diagnostics.
- Cost and affordability are ever-present concerns for consumers, insurers, and health departments. More attention should be devoted to adopting innovative purchasing strategies to make it feasible to screen more people for STIs more frequently.

2. HIV AND STI PROGRAMS CAN JOINTLY ADOPT BEST PRACTICES FOR PROMOTING SEXUAL HEALTH

HIV and other STIs impact the US population as a whole, yet they are concentrated within specific communities and in specific geographic areas. The causes for this are complex and reflect long legacies of discrimination and differential access to health care and preventive services, as well as differences in social and community norms and behaviors. To improve the health of all Americans, strategies are needed to better serve communities at higher risk for STIs without stigmatizing them. This includes MSM, transgender people, women of childbearing age, racial and ethnic minorities, and adolescents. People living with HIV are also a population with distinct needs for STI services.

STI and HIV programs share a recognition that public health needs to lead a new dialogue that gives people better tools for navigating sexual engagement at different stages of life. Integral to this is giving people the knowledge needed to prevent acquisition of STIs and know when and where to seek out STI screening, treatment, and vaccination. This starts with transforming clinics and physical sites from places that communicate that there is something shameful about seeking sexual health services into places that emphasize sexual health services as something that is normal and healthy. Promoting greater support across the country for age-appropriate, medically-accurate and LGBT-affirming sexual health education in school settings also is important. New York City has been a trailblazer in many ways. It has revamped its STD clinics into Sexual Health Clinics that offer HIV

status neutral approaches to sexual health. The city has begun to implement “Quickie Labs” at one of its clinics where asymptomatic individuals can receive walk-in rapid screening for chlamydia and gonorrhea, as well as rapid HIV testing and syphilis testing. Further, its HIV and STI programs have fostered strong partnerships with their state health department to promote and provide comprehensive sexual health services for clients in New York City.⁷

ACTIONS FOR IMPACT:

- CDC’s Divisions of STD, HIV, and Viral Hepatitis Prevention should work with health departments and community partners on a common statement of values for sexual health promotion. The National Coalition for Sexual Health has produced a number of useful resources in this regard.⁸ CDC also should identify critical elements for culturally-relevant and non-stigmatizing service sites to offer comprehensive sexual health services using blended funding streams.
- The National Coalition of STD Directors (NCSDD) and the National Alliance of State and Territorial AIDS Directors (NASTAD), which represent state STD and HIV prevention directors, should collaborate to promote practice transformation and services integration.
- The US Department of Health and Human Services (HHS) should fund major social media campaigns and public-private partnerships to further destigmatize marginalized populations seeking sexual health services and to better inform the public of the consequences of untreated STIs in non-stigmatizing ways.
- HHS health care programs should support clinical decision models in electronic health records to promote sexual health services, including patient portals where sexual health assessments are routinely asked of all patients. This could normalize sexual health as part of health care comparable to physical and behavioral health and empowers the patient rather than relying on the provider to initiate a discussion.

3. HIV SURVEILLANCE AND RESEARCH INITIATIVES NEED TO STRENGTHEN THE STI RESPONSE

CDC’s National HIV Surveillance System is one of the most sophisticated in the world, and National HIV Behavioral Surveillance (NHBS) is a CDC-funded effort that conducts behavioral surveillance on three groups at increased risk for HIV (MSM, people who inject drugs, and heterosexuals at increased risk of HIV) in three-year cycles, with one population being

CAN FREQUENT STI SCREENING IN PrEP AND HIV CARE REDUCE THE STI BURDEN?

BACKGROUND

Many men who have sex with men (MSM) and others see enormous positive impacts from PrEP not only in reducing HIV acquisition, but also in reducing HIV stigma and removing fear from what should be a pleasurable and normal human behavior. In the case of people living with HIV, treatment as prevention (TasP) and the messaging around U=U or undetectable equals untransmittable offer similar benefits in protecting health while also reducing stigma and fear of transmitting HIV. As PrEP was first being introduced, however, many clinicians and others expressed a concern that risk compensation (changing behavior in ways that could increase the risk of HIV acquisition) would lead many MSM PrEP users to reduce condom use, increase their number of sex partners, or change their behaviors in other ways leading to more STI transmission. Similar concerns have been expressed regarding risk compensation stemming from the knowledge that U=U. A countervailing perspective is that regular condom use was challenging or not a priority for a growing number of men, with consistent condom use declining long before PrEP became an option or the effectiveness of TasP was demonstrated. The net impact of PrEP and TasP on the STI burden has been unclear and subject to much debate.

It has been posited that regular STI screening of PrEP users and persons living with HIV could lead to greater diagnosis and timely treatment of STIs and lead to population-level declines in STI incidence. CDC recommendations call for a status neutral 3-site (pharynx, urethra, and rectum) screening for MSM at least every 3 to 6 months if highly vulnerable to STIs. As public health and affected communities work together to deploy PrEP, scale up TasP, and increase their focus on sexual health, it is important to fairly assess the impact of frequent STI screening on STI prevalence. This must be done, however, without negating the benefits of PrEP for reducing HIV acquisition risk and TasP in reducing viral load, and without delegitimizing the individual sexual choices and preferences of MSM and other people.

SOURCES: (1) Jenness SM, et al. Incidence of gonorrhea and chlamydia following human immunodeficiency virus preexposure prophylaxis among men who have sex with men: A modeling study. *Clin Infect Dis* 2017;65(5):712-718. (2) Kojima N, et al. Pre-exposure prophylaxis for HIV infection and new sexually transmitted infections among men who have sex with men. *AIDS* 2016;30(14):2251-2252. (3) Traeger MW, et al. Association of HIV preexposure prophylaxis with incidence of sexually transmitted infections among individuals at high risk of HIV infection. *JAMA* 2019;321(14):1380-1390.

EVIDENCE TO DATE

STI rates are higher among MSM PrEP users than among MSM non-PrEP users. A meta-analysis by Kojima and colleagues estimated that among MSM PrEP users, the incidence rates for gonorrhea and syphilis were more than 25 times the incidence rate among MSM non-PrEP users. Factors that could contribute to these higher rates include better detection of STIs, selection bias in which PrEP users have a higher risk profile than non-PrEP users (STIs are an indication for PrEP, so men with STIs are more likely to go onto PrEP), STI rates are increasing and PrEP users may have been more recently studied compared to non-PrEP users, as well as risk compensation, such as declining condom use. A 2019 Australian study found that STIs were highly concentrated among a subset of MSM PrEP users and that among study subjects, receipt of PrEP was associated with an increase in STIs.

MODELING STUDY ESTIMATES IMPACT

Jenness and colleagues recently conducted a US modeling study on the impact of PrEP care on STIs. They estimate that:

- **STI screening provided as part of PrEP care would prevent 42% of gonorrhea cases and 40% of chlamydia cases among MSM over 10 years if implemented according to CDC guidelines.**
- **Under CDC's current guidelines of 6-month STI screening, the PrEP regimen treated 17% more asymptomatic infections and 16% more rectal infections compared to their baseline assumptions.**
- **With STI screening and treatment every three months instead of every 6 months, STI incidence could be reduced by a further 50%.**

assessed every year. NHBS complements standard surveillance by providing a behavioral context for community-level trends in HIV transmission. These data are relevant to STI prevention. Additionally, the Medical Monitoring Project (MMP) is a CDC surveillance program that monitors people with HIV in care. Numerous HIV clinical datasets and monitoring programs exist, including HRSA's Ryan White HIV/AIDS Program client-level dataset, along with numerous NIH resources, including the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD), the various clinical trials networks, and NIH's extramural HIV research program organized around the Centers for AIDS Research (CFAR) network. These resources, as well as systematic analyses of Medicaid claims data and larger clinical datasets, could better contribute to our understanding of STI trends. Thus, more can be asked from these HIV surveillance and research resources by including more specific questions related to STIs, funding STI testing in the clinical trials networks and other research collaboratives, and funding research within these networks to examine STI transmission dynamics within HIV clinical, prevention and other research datasets.

ACTIONS FOR IMPACT:

- HHS (or CDC's Divisions of STD and HIV Prevention and NIH jointly) should convene a stakeholder consultation with the various federal HIV research programs, along with health departments, clinicians, researchers, and community stakeholders, to identify top STI knowledge gaps and research priorities and consider how various HIV research assets can be utilized.
- CDC should consider establishing an HIV and STI prevention monitoring project, modeled after MMP and NHBS, to offer state and national estimates on progress toward key prevention indicators.
- HHS should develop a targeted initiative to promote greater HIV and STI data integration within health departments and to reduce administrative burden. HHS also should fund jurisdictions to develop HIV and STI data dashboards.
- Given the comparatively low investment in STI diagnostics (with an especially important need

for simple point-of-care diagnostics), vaccine, and therapeutics research, NIH's National Institute of Allergy and Infectious Diseases (NIAID) and the NIH Office of AIDS Research (OAR) should consider opportunities to leverage HIV research resources to bolster STI research.

THE TIME IS NOW

More must be done to facilitate better and more comprehensive sexual health services that would enhance prevention, screening, and treatment for a range of STIs and in turn could improve HIV prevention and care outcomes. By taking deliberate steps to improve collaboration and maximize the collective impact of their programs and services, HIV and STI programs can do even more to reduce the public health impact of STIs in the US.

ENDNOTES

- 1 New CDC Analysis Shows Steep and Sustained Increases in STDs in Recent Years. <https://www.cdc.gov/nchhstp/newsroom/2018/press-release-2018-std-prevention-conference.html>. Accessed October 23, 2019.
- 2 HIV in the United States and Dependent Areas. <https://www.cdc.gov/hiv/statistics/overview/atagance.html>. Accessed October 23, 2019.
- 3 *CDC HIV Prevention Progress Report, 2019*. <https://www.cdc.gov/hiv/pdf/policies/progressreports/cdc-hiv-preventionprogressreport.pdf>. Accessed October 23, 2019.
- 4 Spinelli MA, et al. Provider adherence to pre-exposure prophylaxis monitoring guidelines in a large primary care network. *Open Forum Infect Dis* 2018;5(6):ofy099.
- 5 Centers for Disease Control and Prevention. *Behavioral and Clinical Characteristics of Persons with Diagnosed HIV Infection—Medical Monitoring Project, United States, 2016 Cycle* (June 2016–May 2017). <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-special-report-number-21.pdf>. Accessed October 23, 2019.
- 6 *Id.* Data presented at O'Neill Institute Meeting; February 8, 2019; Washington, DC.
- 7 Chelsea Sexual Health Clinic Reopens After an Extensive Expansion and Modernization of Its Historic Building. <https://www1.nyc.gov/site/doh/about/press/pr2018/pr019-18.page>. Accessed October 23, 2019.
- 8 National Coalition for Sexual Health. Tools for Providers. <https://nationalcoalitionforsexualhealth.org/tools/for-healthcare-providers>. Accessed October 23, 2019.