

# HIV and Syphilis: Rising Rates for Men who have Sex with Men (MSM)



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## **Rise in Syphilis**

After years of decline, sexually transmitted infections are increasing at alarming rates. The national rate of reported primary and secondary (P&S) syphilis was over four times greater in 2016 than it had been in 2000.<sup>1</sup> Syphilis cases increased by 18% between 2015 and 2016 alone.<sup>1</sup> Much of this growth is attributable to cases among men who have sex with men (MSM). Between 2007 and 2013, the number of new cases of syphilis among MSM grew annually (75%).<sup>2</sup> MSM now account for half of all P&S syphilis cases and 80% of these cases among men.<sup>1</sup>

In Los Angeles County, 60 percent of MSM diagnosed with early syphilis in 2015 were also living with HIV.<sup>3</sup> P&S rates are growing particularly fast among young (ages 13-24), black MSM living in the largest metropolitan areas, among whom twice the number of syphilis cases were diagnosed in 2008 as they were in 2004.<sup>6</sup> Additionally, while African-American MSM have no greater risk behaviors than white MSM<sup>4</sup>, they experience double the rates of incident P&S syphilis as compared to all MSM.<sup>1</sup> Social and structural level factors such as social marginalization and inability to access healthcare services contribute to delayed diagnosis and treatment of syphilis and other sexually transmitted infections (STI) among racial minorities.<sup>5</sup>

## **HIV and Syphilis**

Antibiotics can cure syphilis, but left untreated, it can lead to serious health consequences, including chronic pain, severe neurologic, vascular, and reproductive complications, and increased vulnerability to HIV. Among MSM, those living with HIV have the highest prevalence and experienced the greatest recent increase in syphilis diagnosis.<sup>5</sup> One study diagnosed 10.3% of HIV-positive men visiting a sexually transmitted disease (STD) clinic with P&S syphilis, compared to 2.6% of HIV-negative MSM.<sup>1</sup> The CDC reports that 47% of MSM diagnosed with syphilis nationally are also living with HIV.<sup>1</sup> These high rates are a particular health concern because syphilis infection increases HIV viral load and decreases CD4 in HIV-positive individuals, thereby increasing the chance that people living with HIV (PLWH) transmit the virus.<sup>7-10</sup> In view of these serious health consequences, the CDC recommends screening all PLWH at least annually for STIs, including syphilis.

## **Methods**

To investigate the extent to which STI screening conforms to CDC guidelines, we examined whether PLWH in California who had fee-for-service Medicare and Medicaid insurance were tested for syphilis at least once during 2010.<sup>11</sup> We identified syphilis tests in the insurance claims data for 11,465 California Medicare enrollees living with HIV in 2010 and 3,142 Californians with HIV who were enrolled in Medi-Cal (California's Medicaid program). We used multivariable methods to relate syphilis testing to demographic factors.

## **Results**

Our analysis of Medicare and Medicaid claims data showed that PLWH in California did not

meet the CDC's goal of testing at least once annually. In 2010, 65% of HIV-positive Medicare recipients and 74% of Medicaid enrollees received a test for syphilis. Men, who constituted 89% of the Medicare sample and 73% of the Medicaid sample, were more likely to be tested for syphilis than women.<sup>1</sup> Only 51% of the women in the Medicare sample and 68% of women with Medicaid only were tested for syphilis in 2010. Older PLWH were significantly less likely to be tested for bacterial STIs, such as syphilis.

### ***Routine Screening Among HIV-Positive MSM***

Patients who recognize symptoms of syphilis often seek testing in STD clinics. However, the high prevalence of syphilis among MSM, and particularly PLWH, provides a strong rationale for incorporating screening for syphilis as a routine part of their medical care before symptoms are recognized. Increasing screening among PLWH is a particularly high priority both to reduce morbidity among PLWH and to limit the secondary transmission of both HIV and syphilis to others.

### ***Routine Screening Among MSM At-Risk for HIV***

The CDC also recommends at least annual syphilis testing for MSM who are not infected with HIV. According to the CDC, sexually active MSM should be screened for STIs at least annually, rather than relying on symptom-driven testing.<sup>12</sup> STI screening is even more important given that an increasing number of MSM are adopting pre-exposure prophylaxis (PrEP), which has been demonstrated to reduce the transmission of HIV. There is some evidence to suggest that this biomedical advance may result in changes in behaviors, some of which may lead to a consequent uptick in STIs.<sup>13-15</sup> This problem, as a recent modeling study suggests, could be addressed by more frequent STI testing during visits for PrEP every 3 months.<sup>16</sup> Statistical models show that this more frequent screening might actually reduce the prevalence of STIs among MSM.<sup>16</sup>

### ***Opportunities for Intervention***

The frequent medical visits that PLWH make for monitoring their health and obtaining viral load assessments provide the opportunity to test regularly for syphilis, as recommended by the CDC. One relatively low-cost strategy to increase syphilis testing among PLWH is to use blood samples, regularly drawn to monitor HIV viral load, to also screen for syphilis. Over 85% of publicly insured PLWH are regularly tested for CD4 and viral load.<sup>17</sup> The cost of adding a test for syphilis is minimal, ranging from \$1.43 for the initial test to \$2.88 for the confirmatory test.<sup>18</sup> This cost is modest compared to the costs of failing to screen for syphilis early, which leads to not only higher rates of HIV and syphilis transmission but also to costs associated with treating complications resulting from untreated syphilis.

Given that California has made great strides in increasing HIV testing in multiple settings, there are opportunities to leverage existing public health strategies to increase screening for other STIs. Policymakers may want to consider ways in which existing statutory frameworks for encouraging HIV testing could be helpful in increasing syphilis screening. For example,

California Health and Safety Code § 120991 recently expanded HIV testing. The law mandates that when a primary care physician orders blood to be drawn at a primary care clinic, they must offer testing for HIV. Should the patient accept the offer and consent to HIV testing, they are then tested for HIV. It is feasible to consider mandating primary care physicians to offer, in addition to HIV testing, syphilis testing with an opt-out option for blood drawn at a primary care clinic.

Changing the law, however, does not necessarily change the behaviors of individual physicians as they relate to individual patients.<sup>19</sup> Thus, because there is significant overlap between individuals living with or at-risk for HIV and MSM at risk for syphilis, public health advocates should consider expanding continuing education and outreach opportunities to include a focus on conducting routine syphilis screening alongside routine HIV screening, especially among providers serving many MSM. Tying a strategy that bolsters education to enhance medical providers' ability to screen, identify and treat syphilis to the holistic efforts to address HIV prevention and treatment in primary care settings would likely be effective.

Overall, HIV testing rates have increased over time, and robust public information campaigns and efforts to educate community members about HIV testing have been successful in addressing the HIV epidemic. Therefore, a key community-level intervention is putting out information about syphilis to these same target populations in order to increase chances of early diagnoses. Singular campaigns focused on HIV testing could potentially include targeted hybridized messages regarding both HIV and syphilis testing. For this to work, however, there is a real need to ensure that syphilis testing is, in fact, available to those who seek it. More research is necessary to identify a range of settings where syphilis testing could potentially take place, regulatory frameworks as they relate to syphilis testing, and information about available funding streams to cover the increased costs associated with increased testing.

## **Conclusion**

Syphilis is prevalent among MSM and PLWH. Early identification and treatment of the infection reduces risks of both acquiring and transmitting HIV. Doing so may lead to a decrease in morbidity of PLWH and a decrease in syphilis rates overall. Strategies for increasing routine screening for syphilis can leverage existing law and policy frameworks established to increase HIV testing. This, ultimately, can help efforts to reduce ethnic/racial and age-related health disparities in health.

1. Increase provider education about the CDC recommendation for annual STI screening for MSM and PLWH. Women living with HIV are tested less frequently than men, and should be a target audience for enhanced testing.
2. Encourage providers to obtain sexual histories, in order to identify patients at risk of STIs and HIV.
3. Include a prompt within the electronic medical record, to remind providers to screen for syphilis as a component of regular care and in PrEP monitoring visits.
4. Add routine STI screening for MSM and PLWH as a quality of care metric (e.g. Healthcare Effectiveness Data and Information Set (HEDIS)) for all health plans, including Medicare and Medicaid-funded services.

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(Endnotes)

1 (P<.001)