

Increasing syphilis rates among men who have sex with men and screening to detect asymptomatic infection

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Abstract. With reports of increasing syphilis rates among men who have sex with men in various countries and complications such as ocular syphilis and neurosyphilis, greater efforts for promoting frequent syphilis screening of higher risk men are required. This should include serological testing for syphilis every time HIV testing is undertaken and each time HIV viral load testing is performed in HIV-positive men who have sex with men. Systems-based approaches tailored to particular contexts should be explored, evaluated and, if shown to be effective, implemented.

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Recent reports from a growing number of countries indicate that syphilis rates among men who have sex with men (MSM) are on the rise and have, in some cases, reached levels not seen for more than 20 years.¹ Syphilis cases are occurring in both HIV-negative and HIV-positive MSM, with repeat infections often overrepresented in the latter group. Worryingly, reports have appeared of cases of neurosyphilis as well as ocular syphilis, a condition that is potentially blinding. Between 2014 and 2015, 388 suspected ocular syphilis cases were identified from eight US jurisdictions, with 93% of cases in MSM, and 51% in HIV positive people.² The rise in syphilis is also concerning given syphilis may facilitate HIV transmission, as highlighted by data from the iPrEx study, where syphilis infection was associated with subsequent HIV acquisition.³

What is driving these increases in syphilis rates? The factors are likely to be multiple. During the 2000s so-called ‘HIV treatment optimism’ was a term often used to explain apparent increases in sexual risk-taking among MSM and accompanying high rates of sexually transmissible infection (STI) in MSM. With the more recent emergence of evidence for HIV treatment as prevention, and incremental use of pre-exposure prophylaxis against HIV, could we be entering a period of ‘HIV transmission optimism’ that is contributing to further increases in sexual risk-taking and syphilis incidence? These biomedical prevention methods protect men against HIV, but not STIs. Has the proliferation in use of mobile phone apps that link men with other men for sex been a contributing factor? Although the use of mobile apps to meet sexual partners has increased in Australia, men who primarily rely on the internet or apps actually reported less sexual risk behaviour than men using multiple methods.⁴ Longitudinal surveillance on trends in sexual risk-taking reported by MSM

has often focused on HIV risk and condomless anal sex. These may not provide a complete explanation for changes in the incidence of syphilis if sexual practices other than anal sex are also important in the transmission of syphilis between men.

Historically, the control of syphilis has largely been predicated on the principle of early identification and treatment of the infectious stages of syphilis in order to reduce the period of infectivity and stem further transmission. Although primary syphilis may result in lesions that prompt infected individuals to seek treatment, they may be atypical and misdiagnosed even by experienced sexual health physicians.⁵ Moreover, primary lesions in MSM can occur in relatively hidden locations such as the mouth and anus where they may be overlooked. The generalised rash of secondary syphilis has a propensity for mimicking more common dermatological conditions, and may also be misdiagnosed, resulting in delays to treatment.⁶

Serological screening for syphilis is central to the detection of infectious syphilis. In 2016 the US Preventive Services Taskforce published recommendations supporting syphilis screening based on a systematic review that found evidence that screening persons at increased risk provides substantial benefits by preventing late disease and further sexual transmission. In this issue of *Sexual Health* Pizzicato *et al.* present the results of a cross-sectional survey of MSM and transgender women in Peru and found 5% of individuals to have serological evidence of untreated syphilis.⁷ HIV-positive individuals were more likely to have undiagnosed syphilis. They rightly conclude that increased screening for syphilis is required in MSM, including those with HIV.

But how can substantial increases in syphilis screening, sufficient to put a dent into the syphilis epidemic among

MSM, be achieved in the real world? This of course depends on the barriers to testing that exist in any particular context and what strategies targeting both MSM and health care providers are feasible. The Australian National Gay Men's Syphilis Action Plan and Australian guidelines governing STI screening of MSM have advocated frequent syphilis screening of higher risk MSM. This includes serological testing for syphilis every time HIV testing is undertaken and each time HIV viral load testing is performed in HIV-positive MSM. The latter intervention has been shown to improve the detection of asymptomatic infectious syphilis among HIV-positive MSM.^{8,9} Studies show opt-out syphilis testing with HIV monitoring has led to increases in screening at some clinics that manage MSM with HIV in Australia, but this has not been achieved uniformly across HIV services.^{10,11} Systems-based approaches tailored to particular contexts should be explored, evaluated and, if shown to be effective, implemented. For example, text message reminders to MSM to have 3-monthly STI screening and an electronic health record alert reminding clinicians to screen high-risk MSM for syphilis more frequently have been shown to improve detection of early, asymptomatic syphilis.^{12,13} How much screening is required? Data from a national network of sexual health clinics in Australia show that the coverage and frequency of syphilis screening have both increased substantially among HIV negative and HIV positive MSM with increased detection of asymptomatic early syphilis and a relative reduction in secondary syphilis. Despite this, notifications for syphilis in Australia have continued to climb, ostensibly because new infections have outstripped any downward effect of interventions such as screening.¹⁴ Mathematical modelling could help answer what level of screening is needed for better control but constructing models that accurately reflect what is happening in the real world is challenging.

Efforts to improve partner notification, although challenging where partners are anonymous, should not be forgotten, nor should empirical treatment of men reporting sex with syphilis-infected partners.^{15,16} With the increasing availability of pre-exposure prophylaxis against HIV in various countries, and the potential this has for putting further upward pressure on syphilis incidence,¹⁷ syphilis screening of high-risk MSM with sufficient coverage and frequency will remain as important as ever. Given the continued rise of syphilis among MSM internationally, other interventions aimed at curbing the syphilis epidemic should be considered. Evidence that post exposure prophylaxis using doxycycline is effective in reducing the incidence of syphilis will generate discussion on the role of antibiotic prophylaxis at a time when there are concerns about antibiotic resistance and calls for greater antimicrobial stewardship.¹⁸

Conflicts of interest

None declared.

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