

How to address the resurgence of syphilis in Canada

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Three linked Practice articles published in this issue of *CMAJ* depict different clinical features of syphilis. The burden of syphilis has been increasing in recent years in North America in many population groups.^{1,2} Although the natural epidemiology of syphilis shows recurrent peaks and troughs of infection in roughly 10-year cycles³ related to changing risk behaviours and waxing and waning partial host immunity at the population level, several potential drivers of the current rise in incidence have been identified. All physicians should be aware of the myriad presentations of syphilis to be able to support efforts to address the problem of increasing incidence, through risk-reduction counselling and referral to regional specialist services for treatment.

Although syphilis does not discriminate based on age, race, ethnicity or sexual orientation, certain behaviours increase a person's risk of infection. A recent rise in the use of smartphone-based dating applications, which make it easier to meet sex partners, has been linked to increased likelihood of risky sexual behaviours among people of all sexual orientations.^{4,5} Although much of the rise in incidence of syphilis has been observed among gay and bisexual men who have sex with men (gbMSM), an increase in incidence rates has also been reported among women, with a striking increase in congenital syphilis.¹

Among gbMSM, the widespread uptake of HIV pre-exposure prophylaxis (PrEP) has led to reduced condom use, with an associated rise in incidence of sexually transmitted infections (STIs).⁶ Some health care providers have been reluctant to prescribe PrEP because of concern that use of PrEP will lead to more sex without condoms and therefore higher risk of STIs. However, given that PrEP is highly effective in interrupting HIV transmission, it should be prescribed to people at risk, and practitioners can take the opportunity to ensure screening for, and treatment of, STIs to interrupt their transmission. Other cited reasons for the rise in STI incidence among gbMSM are reduced fear of HIV infection and reduced condom use ("condom fatigue").⁷

An analysis of primary and secondary syphilis surveillance data for 2013–2017 in the United States showed that, among cisgender heterosexual people, a large proportion of men and

KEY POINTS

- The incidence of syphilis infection is rising in Canada and beyond.
- Although syphilis does not discriminate and is easily acquired, certain behaviours put people at high risk of syphilis infection, including sex without barrier protection, multiple and frequent sex partners, and substance use that is associated with risky sex.
- Prevention and control will require multisector involvement including education initiatives, a high index of suspicion among all clinicians, timely and detailed surveillance to target interventions, quicker access to testing, more discreet access to regular screening for at-risk populations, and addressing the social determinants of health in some populations.

women with syphilis reported using methamphetamine, injection drugs or heroin.⁸ Drug use, particularly the use of methamphetamine, has been associated with risky sexual behaviours, including having multiple or concurrent sex partners, inconsistent condom use and exchange of sex for drugs or money.⁸ Substance use and misuse are also prevalent among Canadian gbMSM of all ages according to data from the National Sex Now Survey.⁹ People who use drugs are, in turn, more likely to report stigma and mistrust of the health care system. This, along with unstable housing, poverty, incarceration and other social factors, may contribute to decreased health care utilization and reluctance to identify and locate sex partners.⁸

Around the turn of the century, syphilis infection became more prominent among middle-aged and older adults. From 1997 to 2007, infectious syphilis rates increased 11-fold among middle-aged (40–59 yr) adults as compared with a 5-fold increase among younger (15–29 yr) adults.¹⁰ In 2007, men represented 93% of cases among middle-aged adults. The reasons for the rise include changes in social patterns such as more single, middle-aged adults as a result of relationship change and the availability of drugs to combat erectile dysfunction.¹⁰

Awareness of local syphilis epidemiology is important for practitioners who must identify and treat patients with syphilis infection. In Canada, limited availability of quality and timely national

data on the epidemiology of notifiable STIs — currently collected separately for 13 provinces and territories — makes this difficult. Although increasing coordination of data collection and timeliness of their availability are important, additional information, such as ethnicity and sexual orientation, must be collected and analyzed with surveillance data to ensure appropriate targeting of interventions. Ethnicity data are largely missing from national surveillance data¹¹ for syphilis, but even in provinces and territories where they are routinely collected and available, reluctance to make these data available because of concerns about stigmatizing some at-risk populations has hampered efforts to intervene appropriately. Furthermore, although data on sexual risk behaviours and STIs are widely available for some groups (e.g., gbMSM in Canada), few data are available for Indigenous Peoples, who are disproportionately affected by STIs.¹¹ To address this concern, it is essential for federal, provincial and territorial governments to collaborate with affected populations and community-based organizations to ensure that data are collected and presented with culturally and socially appropriate perspectives, without promoting further stigma and discrimination.

Because syphilis may be asymptomatic or present in many ways, and often mimics other conditions (as shown by the 3 linked articles), practitioners should maintain a high index of suspicion and a low threshold for testing for syphilis, particularly among those who are at increased risk. Regular screening (e.g., at least annually) is warranted for those at increased risk. Depending on the individual's sexual risk behaviour, screening at more frequent intervals (e.g., every 3–6 months) may be necessary. Making screening easier may help to facilitate this. For example, an entirely Web-based service for STI testing was piloted in British Columbia to facilitate regular screening among people who may be reluctant to come to clinics for testing (www.bccdc.ca/about/news-stories/news-releases/2017/gco-expansion). This approach has been expanded further and should be scaled up in Canada, alongside other nontraditional ways of reaching at-risk populations.

Improved education of those at risk of acquiring the infection is also important. For example, accessible education campaigns that provide information on the relative ease with which syphilis can be transmitted — especially through intimate contact without intercourse, such as kissing — may help to alter sexual behaviours.¹²

Access to timely syphilis testing in remote regions of Canada may be limited, with test results taking up to 2–3 weeks, thus impeding efforts to treat cases and partners in a timely fashion. Use of point-of-care tests could solve this problem; however, no point-of-care tests for the detection of syphilis have been approved for use by Health Canada. An initiative funded by the Canadian Institutes of Health Research will commence shortly in the remote regions of Nunavut and Nunavik to evaluate the acceptability, performance and utility of a point-of-care test for syphilis (http://webapps.cihr-irsc.gc.ca/decisions/p/project_details.html?applId=388947&lang=en).

To bring the current high rates of syphilis infection in Canada under control again will take the combined efforts of public health education; astute primary care practitioners armed with up-to-date local epidemiological information; a high index of suspicion among all clinicians; a low threshold for testing for syphilis; and the capacity to connect patients with specialist STI services, faster testing and more accessible screening processes.

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