The (re)emergence of STIs among MSM: Why does it matter and what can be done?

By James Wilton

Rates of many sexually transmitted infections (STIs) are either high or on the rise among gay men and other men who have sex with men (MSM). These infections can pose health risks and also facilitate HIV transmission. Although condoms have been the cornerstone of HIV and STI prevention, the simple message of “always use a condom” no longer reflects the diversity of non-condom-based HIV prevention options available to gay men. As frontline service providers continue to educate clients about these new HIV risk-reduction strategies (which do not directly protect against other STIs), it is important to reflect on what can be done to address STIs among MSM.

This article explores the history of STIs among MSM, current challenges to improving the diagnosis and prevention of these infections, and potential solutions.

From past to present

Although STIs such as gonorrhea and syphilis have been around for centuries, there was an increase in the rates of these infections and the emergence of new ones in the 1960s.\(^1,2\) Several factors including the sexual revolution, wider availability of birth control, and decreased public perception of the seriousness of STIs (because of access to improved treatments) are believed to have contributed to reduced condom use and increased STI rates.\(^2\) In the 1970s, the STI epidemic continued and it became clear that many of these infections were concentrated among MSM.\(^2\)

The emergence of HIV in the early 1980s sparked widespread fear, community mobilization and subsequent increases in condom use among MSM.\(^2,3\) This led to a decrease in many STIs.\(^2,3\) The decrease was so dramatic that by the mid-1980s, syphilis was thought to have been eliminated in some parts of the United States.\(^4\) However, condom use among MSM began to decrease again following the development of antiretroviral therapy for the treatment of HIV in 1996.\(^1\) Decreased condom use also coincided with the increased use of non-condom HIV risk-reduction strategies such as serosorting, negotiated safety, strategic positioning and, more recently, the use of antiretroviral treatment as prevention and pre-exposure prophylaxis (PrEP).\(^5,6\) Subsequently, some STIs have begun to (re)emerge at high rates, particularly among MSM in high-income countries.

According to the Public Health Agency of Canada, after a decline in STIs among MSM beginning in the 1980s, there has been an increase in syphilis, gonorrhea, chlamydia, genital herpes, hepatitis A virus (HAV), hepatitis B virus (HBV) and HIV among MSM in Canada and internationally since the mid-1990s.\(^7\)

High and increasing rates of STIs among MSM
Many STIs disproportionately affect MSM, particularly those living with HIV. Transmission within these populations is facilitated by relatively small sexual networks, in which STI and HIV infections can reinforce each other (that is, STIs increase the risk of HIV transmission and HIV increases the risk of STI transmission). This is not only conducive to the quick spread of HIV and other STIs, but also the development of drug-resistant and potentially more harmful forms of these infections.\textsuperscript{8,9}

Below is some information on these different STIs and what we know about their rates among MSM.

### Syphilis, gonorrhea and chlamydia

Syphilis, gonorrhea and chlamydia are all on the rise in Canada.

Syphilis infections are increasing in Canada and, between 2003 and 2012, rates increased by about 100%.\textsuperscript{10} Data from some provinces in Canada and other high-income countries suggest the majority of syphilis infections are occurring among MSM.\textsuperscript{3,11} For example, in 2013, 85% of syphilis cases in British Columbia were among MSM.\textsuperscript{11}

Gonorrhea is the second most commonly reported STI in Canada (after chlamydia) and, between 2003 and 2012, rates increased by 39%.\textsuperscript{12} Data from some Canadian provinces and other high-income countries suggest MSM have high rates of gonorrhea.\textsuperscript{13} For example, in 2014, 41% of males diagnosed with gonorrhea in Ontario were MSM.\textsuperscript{14} A survey of over 4,000 MSM recruited from a variety of different venues (including gay bars) across Canada between 2005 and 2007 found that 21% reported being diagnosed with gonorrhea in the past.\textsuperscript{15}

Multidrug-resistant gonorrhea has increased dramatically over the past decade\textsuperscript{16} and studies in high-income countries suggest MSM are at higher risk of infection with this resistant bacteria compared to other populations.\textsuperscript{17,18} Promisingly, research suggests that the rate of drug-resistant gonorrhea is beginning to decrease in Canada, likely due to changes to treatment guidelines implemented in 2011.\textsuperscript{19}

Chlamydia continues to be the most commonly reported STI in Canada and, between 2003 and 2012, the overall rate of chlamydia increased by 58%.\textsuperscript{20} This increase was greater (75%) among males. Although there is little evidence that chlamydia disproportionately affects MSM, rates are still high in this population. For example, in a survey of over 4,000 MSM recruited from a variety of different venues (including gay bars) across Canada between 2005 and 2007, 11% reported being diagnosed with chlamydia in the past.\textsuperscript{15}

Another form of chlamydia, known as lymphogranuloma venereum (LGV), has emerged as a particular concern among MSM. Prior to 2003, LGV infections were rare in high-income countries. However, there have been recent outbreaks of rectal LGV among MSM in Europe, Australia, the United States, and Canada.\textsuperscript{21,22} All confirmed cases of LGV in Canada have been among males and most of these were MSM.\textsuperscript{20}

### Genital herpes

Herpes simplex virus type 2 (HSV-2) is the most common cause of genital and anal herpes and about 14% of adults in Canada are infected with this virus.\textsuperscript{23} Studies in high-income countries suggest MSM, particularly MSM living with HIV, are disproportionately affected.\textsuperscript{24,25,26} For example, in a study of MSM attending STI clinics in England and Wales, 55% of HIV-positive MSM had HSV-2 compared to 17% of HIV-negative MSM.\textsuperscript{27}

### Hepatitis B

Hepatitis B is most commonly transmitted through sex and overall rates of this infection in Canada are decreasing.\textsuperscript{28} Between 2005 and 2010, 10% of hepatitis B infections in Canada were estimated to be among MSM.\textsuperscript{28}

### Sexually transmitted hepatitis C

In Canada, rates of hepatitis C infection have been declining in recent years.\textsuperscript{29} The most common route of transmission in Canada is injection drug use equipment sharing. However, there has been a recent increase in
**sexually transmitted** HCV in high-income countries, particularly among HIV-positive MSM.\(^{30,31}\) For example, in a study of HIV-positive MSM in Amsterdam, where only 11% reported injection drug use, prevalence of HCV increased from 6% to 21% between 1995 and 2008.\(^{32}\)

### HPV and anal cancer

Human papilloma virus (HPV) is a sexually transmitted infection that can lead to genital/anal warts and cancer. In a sexual health survey of MSM in Vancouver, 18% of men had been diagnosed with genital warts, 62% were infected with a strain of HPV, and screening for anal cancer detected abnormalities in 64% of HIV-negative men and 34% of HIV-negative men (suggesting anal cancer may be present).\(^{33}\) In North America, rates of anal cancer are higher among people living with HIV (compared to HIV-negative people) and HIV-positive MSM (compared to other HIV-positive men and women).\(^{34}\) Indeed, anal cancer is now one of the most common non-AIDS-defining cancers among people living with HIV.\(^{35}\)

### Mycoplasma genitalium

Little is known about the prevalence of *Mycoplasma genitalium* (MG) among MSM in Canada. However, in a study of MSM attending STI clinics in England in 2008, 7% were infected with rectal or urethral MG and the prevalence was higher among HIV-positive men.\(^{36}\)

### Gastrointestinal-related infections

Outbreaks of gastrointestinal-related infections that can be transmitted sexually, such as the bacterial infection *Shigella*\(^\text{37}^{\text{,38}}\) and the viral infection hepatitis A\(^\text{39,40,41}\) have been documented among gay men in high-income countries.

Intestinal parasites are also more common among MSM.\(^{42,43}\) In a study of MSM and non-MSM in Australia, the prevalence of intestinal parasites was 52% among MSM compared to 13% among non-MSM.\(^{44}\)

### STI prevention – the same as for HIV?

There are some key differences between HIV and STIs that should be taken into account when addressing prevention messaging.

In terms of behaviours that pose a risk for transmission, oral sex is considered “low risk” for the transmission of HIV, but it is “high risk” for the transmission of many STIs.

Condoms are a highly effective strategy to prevent HIV transmission. Condoms are also an effective strategy to prevent most STIs; however, condoms are less effective at preventing the transmission of STIs that are spread through skin-to-skin contact, such as warts, herpes and syphilis.

There are no vaccines available to prevent HIV transmission; however, there are some vaccines to prevent STI transmission (HPV, for example).\(^\text{45}\)

There are many HIV prevention strategies that don’t protect against STIs. Two highly effective strategies, pre-exposure prophylaxis\(^\text{46}\) and the use of antiretroviral treatment as prevention,\(^\text{47}\) can dramatically reduce the risk of HIV transmission if used consistently and correctly. Other strategies such as serosorting and strategic positioning may be able to reduce HIV risk to some extent.\(^\text{48,49}\) Unfortunately, none protects against STIs. Importantly, STIs may increase the risk of HIV transmission while using some of these prevention strategies.

### A word on STI vaccines

Vaccine-preventable STIs include HPV, and hepatitis A and B. Below is some information on these vaccines:

- **HPV vaccine**: The HPV vaccine is recommended for MSM in Canada who are 9 years old and older.\(^\text{50}\) All provinces and territories have universal school-based HPV vaccination programs for girls, but only Alberta and
provinces and territories have universal school-based HPV vaccination programs for girls, but only Alberta and Prince Edward Island offer the vaccine to all boys. Most provinces and territories do not cover the cost of HPV vaccination for males of any age.

- Hepatitis A vaccine: The hepatitis A vaccine is recommended for high-risk groups, including MSM, and some provinces and territories cover the cost for these groups. There are no school-based hepatitis A vaccination programs in Canada.
- Hepatitis B vaccine: In the early 1990s, all provinces and territories in Canada initiated a universal, school-based hepatitis B vaccination program for children aged 9 to 13 years. This vaccine is also recommended for adults at higher risk of infection, including MSM, and some provinces and territories cover the cost for these adults.

**STI screening and testing**

STIs can negatively impact a person’s health and many, such as gonorrhea, chlamydia, syphilis, herpes and warts, can facilitate the transmission of HIV when left untreated. In addition, MSM living with HIV may be more likely to become infected with an STI and experience worse health outcomes once infected.

Fortunately, most STIs are treatable and timely diagnosis can help reduce the impact of these infections on health and STI/HIV transmissions. Timely diagnosis is not only important to facilitate early treatment, but also for the prompt notification of sex partners who may have been exposed.

Despite our knowledge of the benefits of diagnosis and treatment, STI screening and testing efforts are often inadequate. As a result, many infections are left undiagnosed and untreated for lengthy periods of time. Current efforts among MSM are inadequate for three main reasons.

1. **Low rates of client- and provider-initiated testing**

   The first reason current efforts to diagnose and treat STIs are inadequate is the relatively low rate of STI testing among MSM. In a survey of over 8000 MSM across Canada in 2011–2012, about half had not been tested for any STIs in the past year. Further, in a study of HIV-positive gay men in Ontario reporting a high number of sex partners, 22% had not been tested for syphilis and 42% had not been tested for chlamydia or gonorrhea in the past year.

   In general, STI testing does not occur because a person does not seek it out (client-initiated testing) or because they aren’t offered testing during visits with a healthcare provider (provider-initiated testing). Low rates of both client- and provider-initiated testing likely contributed to the relatively low rates of STI testing observed in the studies described above.

   Potential barriers to client-initiated testing include fear of stigma, low perceived risk of infection, lack of knowledge with regards to how often to test, lack of symptoms (many people with STIs are asymptomatic), poor access to appropriate healthcare services, and lack of comfort talking to a health provider about sexual behaviour. In the survey of over 8000 MSM across Canada, about half had not disclosed their sexual orientation to their primary care provider, which can make it difficult to discuss sexual behaviours with their doctor and request appropriate STI testing. Indeed, in a study of MSM in Vancouver, those who had not disclosed their same-sex sexual activity to their healthcare provider were less likely to have been tested for HIV, gonorrhea and syphilis, and vaccinated for hepatitis A and B.

   Similar barriers may prevent a healthcare provider from offering STI testing to a patient, such as a lack of symptoms in a patient, lack of knowledge of how often to offer testing, or discomfort on the part of the provider in discussing sexual behaviour. Lack of competent, gay-friendly, sex-positive, and non-judgemental healthcare services are likely a major barrier to reducing rates of STIs among MSM.

2. **Low rates of extragenital screening**

   The second reason current efforts to diagnose and treat STIs are inadequate is the low rate of extragenital screening for STIs.

   Even if a person with an STI does get tested, their infection may not be diagnosed because they are not tested in the right places. Although STIs can affect the urogenital areas (the urethra of the penis), they can also affect other
sites, such as the throat and rectum, also known as extragenital sites. Research shows that the majority – as much as 80% – of asymptomatic chlamydia and gonorrhea infections in MSM would be missed if only urogenital screening were offered. Unfortunately, extragenital STI screening is much less common than urogenital screening. In a study reviewing medical visits made by HIV-positive MSM in New York State, only 11% of those reporting anal sex were offered rectal screening for chlamydia or gonorrhea by their healthcare provider. Similarly, research shows that screening for anal cancer is uncommon among MSM.

### 3. Lack of integration of HIV and STIs

An overarching factor contributing to the low rates of testing among MSM may be the lack of integration between HIV and STIs within sexual health programming for gay men. For example, there may be a greater focus on HIV compared to other STIs in some programming. The greater focus on HIV may not only affect educational campaigns and resources, but also clinical services. For example, HIV tests may not always be accompanied by STI tests. Indeed, in a sexual health survey of MSM in Vancouver, more men reported testing for HIV in the past year (51%) compared to gonorrhea (36%), syphilis (37%), and hepatitis C (32%).

There are strong Canadian examples of organizations that have integrated STI/HIV testing and sexual health services for gay men and MSM, including Health Initiative for Men in Vancouver and surrounding cities, SPOT in Montreal and Gay Zone/Zone gaie in Ottawa.

### Guidelines on STI screening for MSM

Guidelines can play an important role in informing the development of messages for clients and the clinical practice of healthcare providers. The Centers for Disease Control and Prevention (CDC) in the United States recommend MSM be screened annually for:

- Syphilis
- Urogenital chlamydia and gonorrhea (in men who have had insertive anal sex)
- Rectal chlamydia and gonorrhea (in men who have had receptive anal sex)
- Pharyngeal gonorrhea (in men who have had receptive oral sex)

For men at higher risk of infection with STIs, more frequent screening (three- to six-month intervals) is recommended. The guidelines also recommend that healthcare providers consider screening for herpes, hepatitis C and anal cancer. In general, HIV care guidelines recommend people living with HIV be offered testing for STIs during their regular physician visits.

Based on the recommendations in these guidelines and what we know about rates of STI testing in Canada, it is clear both client- and provider-initiated STI testing in Canada is falling short.

Canada does not have national recommendations for frequency of STI screening, but the Canadian Guidelines on Sexually Transmitted Infections recommend that MSM who have had receptive oral sex and/or receptive anal sex (whether or not a condom was used) have oral and rectal screening for gonorrhea.

### Moving forward

As the use of non-condom HIV risk-reduction options continues to increase, people working in HIV need to be actively involved in addressing the rising rates of STIs among gay men. To improve STI prevention, testing and treatment, frontline service providers should:

- **Better integrate HIV and STIs into your work.** It is important to recognize the overlap between STIs and HIV and reflect on what this might mean for the prevention, care and treatment messages and services provided by your organization. The differences between STIs and HIV in terms of transmission and prevention also need to be highlighted in prevention messaging for people who are at risk of, or living with, these infections.
- **Encourage sexually active clients to test at least once a year.** Clients should be counselled on how to self-advocate with their healthcare providers to ensure they are getting tested for the right STIs in the right places annually.
- **Encourage clients to get vaccinated against STIs (HPV and Hepatitis A and B).**
• Improve awareness of STI testing recommendations among healthcare providers in your area and link clients to well-informed, non-judgemental providers.

• Emphasize the limitations of non-condom risk-reduction strategies in reducing the risk of STI transmission and the importance of combining these strategies with regular STI testing and/or condoms. Since it is recommended that people using treatment as prevention or PrEP get tested for STIs on a regular basis (every three to six months), these strategies may facilitate STI testing and help reduce the impact of these infections among gay men.

Resources

Syphilis among gay, bisexual, two-spirit and other men who have sex with men: A resource for population-specific prevention – Public Health Agency of Canada (PHAC)

STD Treatment Guidelines, 2015 – U.S. Centers for Disease Control and Prevention (CDC)

Canadian Guidelines on STIs – PHAC

Canadian Immunization Guide – PHAC

Related article

For a discussion on the rising rates of STIs in gay men, see Views from the front lines: Sexually transmitted infections and gay men.

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