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From *HIV in Canada: A primer for service providers*

## **Reportable Sexually Transmitted Infections (Chlamydia, Gonorrhea and Infectious Syphilis)**

### **Key Points**

- The number of new diagnoses of sexually transmitted infections is on the rise.
- The presence of some sexually transmitted infections may increase the risk of transmitting and acquiring HIV.
- Given that HIV and sexually transmitted infections share some risk factors for infection, people diagnosed with a sexually transmitted infection should be tested for HIV.
- The consistent and correct use of condoms can reduce, but not eliminate, the risk of acquiring or transmitting a sexually transmitted infection.

Sexually transmitted infections (STIs) are caused by microorganisms that can be passed from person to person through sexual contact. In Canada, the three reportable STIs are chlamydia, gonorrhea and infectious syphilis. The consistent and correct use of condoms can reduce, but not eliminate, the risk of acquiring or transmitting these infections.

Chlamydia, gonorrhea and syphilis can all be transmitted through vaginal, anal or oral sexual contact and from mother to child during pregnancy or delivery.

It is possible to be re-infected by these STIs even after a previous infection is cured.

Information on STIs is important to the fight against HIV in three ways. First, an analysis of STI surveillance data can offer important insights into how quickly and to what extent the HIV epidemic may spread in different populations. Second, the presence of an STI may increase the risk of an HIV-negative person becoming infected with HIV and of an HIV-positive person passing HIV to others. Thirdly, some STIs can progress more quickly and be more difficult to treat in people who are HIV positive.

Chlamydia can affect the genitals and rectum. It is also known as the silent disease because up to 50% of infected males and 70% of infected females do not have symptoms and are unaware of the infection. Even without symptoms, however, chlamydia can lead to serious health problems, especially for women. In females, untreated chlamydia may lead to pelvic inflammatory disease, infertility and arthritis, while males may develop scarring in the urethra, arthritis and, occasionally, infertility. Chlamydia can be screened through a urine test or a urethral, throat, cervical or anal swab. Chlamydia infections can be cured by antibiotics.

Gonorrhea can affect the genitals, rectum, throat and eyes. Women infected with gonorrhea are more likely than infected men to have no symptoms, or their symptoms are likely to be milder. However, transmission of the bacteria can still occur without symptoms and, if not treated, health complications may develop: pelvic inflammatory disease, infertility, arthritis and ectopic pregnancies in females and scarring of the urethra, potential infertility and arthritis in males. Gonorrhea can be screened through a urine test or a urethral, throat, cervical or anal swab. Gonorrhea can be cured by a single dose of an antibiotic, but drug-resistant strains of the bacteria are becoming more prevalent.

Syphilis is a bacterial STI that attacks the body in three stages. Some people develop visible symptoms, such as painless sores and rashes, while others don't. Symptoms may resolve without treatment, at which point the infection becomes latent. After many years in the latent stage, syphilis may progress into a tertiary infection and cause serious damage to the brain, heart, eyes and bones that can lead to death. Syphilis can be screened through a blood test. If syphilis is caught early, it can be cured by a simple antibiotic treatment.

As in other high-income countries, new diagnoses of STIs are on the rise in Canada. Between 2003 and 2015, the rate of new diagnoses of chlamydia, the most common bacterial STI in Canada, increased by 71% (from 189.7 to 325.0 new diagnoses per 100,000 people). There were 116,499 new chlamydia diagnoses in 2015, with almost two-

thirds of reported cases in females compared to one-third in males. The highest reported rates of chlamydia were among people aged 15 to 29. The Northwest Territories and Nunavut had the highest reported rates in Canada.

Between 2003 and 2015, the rate of new gonorrhoea diagnoses, the second most common bacterial STI in Canada, increased by 87% (from 24.5 to 55.4 new diagnoses per 100,000 people). There were 19,845 new gonorrhoea diagnoses in 2015. Males had higher rates of gonorrhoea (70.2 new diagnoses per 100,000 males) compared to females (40.6 new diagnoses per 100,000 females). The highest reported rates of gonorrhoea were among people aged 15 to 29. Nunavut, the Northwest Territories and the Yukon had the highest reported rates in Canada.

Between 2003 and 2015, there was a significant and worrisome increase in the number of new infectious syphilis diagnoses, the least common reportable STI. During this time period, the diagnosis rate increased by 138% (from 4.4 to 9.3 new diagnoses per 100,000 people). There were 3,321 new infectious syphilis diagnoses in 2015. Men accounted for 94% of new diagnoses with a rate of 17.5 new diagnoses per 100,000 males (compared to females at only 1.2 per 100,000 females). The highest reported rates of infectious syphilis diagnoses were among people aged 20 to 39. Nunavut, British Columbia and Manitoba had the highest reported rates in Canada. Syphilis outbreaks have been reported across Canada, in locations including Vancouver, Edmonton, Calgary, Winnipeg, Toronto, Ottawa, Montreal and the Yukon. However, affected populations have varied by locale and have included men who have sex with men, heterosexual populations, Indigenous populations and people who use injection drugs.

Many STIs, including chlamydia and gonorrhoea, can be asymptomatic (i.e., they do not produce symptoms). This makes it more difficult to ensure timely diagnosis. Given that STIs and HIV share routes of transmission, it is essential that people who have been diagnosed with either an STI or HIV be tested for the other infection(s) and provided with appropriate prevention counselling. It is imperative that co-infected individuals be aware of their status for two reasons: (1) people who know their status usually make behaviour changes that result in a reduced transmission risk for others and (2) informed decisions about treatment and care cannot be made without this knowledge.

There have been increasing reports of antibiotic-resistant STIs (especially gonorrhoea). In some populations and regions the rise in antibiotic-resistant infections has reduced treatment options. If new antibiotics are not developed, it may become increasingly difficult to control these infections and their complications.

## Resources

[Chlamydia](#) – CATIE/SIECCAN fact sheet

[Gonorrhoea](#) – CATIE/SIECCAN fact sheet

[Syphilis](#) – CATIE fact sheet

[Canadian guidelines on sexually transmitted infections](#) – Public Health Agency of Canada (PHAC)

[STIs: What role do they play in HIV transmission?](#) – *Prevention in Focus*

## Sources

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