



Canada's source for  
HIV and hepatitis C  
information

La source canadienne  
de renseignements sur  
le VIH et l'hépatite C

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

## Tuberculosis

### Key Points

- There were 1,639 active tuberculosis cases in Canada in 2015.
- The majority of new tuberculosis cases are among foreign-born Canadians and Aboriginal peoples.
- People with HIV are at higher risk for contracting tuberculosis.
- An estimated 1.6% to 5.8% of people living with HIV have active tuberculosis.
- People with HIV are more likely to progress from latent tuberculosis to active tuberculosis.
- People with HIV are more likely to develop extrapulmonary tuberculosis.
- Aboriginal people and immigrants to Canada from countries with higher rates of tuberculosis and HIV are at greater risk for co-infection.

*Mycobacterium tuberculosis* is a bacterium spread from a person with active, infectious tuberculosis (TB) of the lungs or airways to another person through the air. TB is not as contagious as some other airborne infections — exposure must be sustained for infection to occur. When exposure to TB occurs, the body's immune system can sometimes eliminate the infection. If this does not occur, the bacterium can remain alive but inactive in the body, resulting in a latent TB infection. There are no symptoms associated with latent TB infection and it does not make the person infectious. However, latent TB infection can develop into active TB when the immune system is compromised or becomes weak. If this occurs, symptoms develop and the person becomes infectious to others.

TB can spread outside of the lungs through the blood to other parts of the body (extrapulmonary TB), such as the kidneys, bones and joints, intestines, brain and spinal cord. TB can also infect the entire body (disseminated or miliary TB). TB outside the lungs is usually not infectious to others because they do not spread TB into the air through coughing.

The Bacille Calmette-Guérin (BCG) vaccine partially protects against TB infection. In Canada, this vaccine is not universal and is only provided to infants of First Nations and Inuit communities with high rates of TB.

TB is diagnosed through a TB skin test. Positive results should be followed up with a chest X-ray and a sputum smear to determine if the individual has active TB. TB outside the lungs can be more difficult to diagnose because the chest X-ray and sputum culture will be negative. False-positive skin test results can occur if someone has been vaccinated with BCG or infected with other TB-like illnesses. A false-negative skin test can occur if the immune system is weak, such as in people with HIV. New blood tests are being investigated as alternative methods for diagnosing latent TB.

Both latent and active TB can be cured with antibiotics taken for at least six months. Individuals who fail to fully adhere to the drug regimen can develop drug-resistant TB, making their care more complicated and increasing the chances that they will transmit drug-resistant TB to others. Multi-drug-resistant TB results in increased complications for treatment and care. Extensively drug-resistant TB is almost universally fatal.

In Canada, there were 1,639 active TB cases in 2015 (or a rate of 4.6 TB cases per 100,000 people). The majority of all reported TB cases in 2015 were among foreign-born Canadians (71%). In addition, 17% were among Canadian-born Aboriginal people and 11% among Canadian-born non-Aboriginal people. There are pronounced disparities in TB rates between the provinces, with Nunavut having the highest rate of new reported cases in Canada.

People with HIV are at greater risk of contracting TB because of their weakened immune system (the risk is estimated to be between 20 to 37 times greater in people living with HIV than among those without HIV infection). Furthermore, people with HIV are 10 times more likely to develop active TB than people without HIV. People with HIV are also more likely to have active TB outside the lungs.

There is uncertainty regarding the level of co-infection in Canada. The estimates of the percentage of people with HIV who also have active TB range from 1.6% to 5.8%. The estimates of the number of people with TB who are also HIV positive range from 3.8% to 13.8%. Aboriginal people and immigrants to Canada from countries with higher rates of TB and/or HIV are at greater risk for co-infection. Research also suggests that the risk of developing TB increases with the duration of untreated HIV infection.

Because of the close links between HIV and TB, screening policies recommend testing of all TB-infected people for HIV and all HIV-positive people for TB. It is estimated that only 21% of HIV-positive people have been screened for TB.

## Resources

[Tuberculosis & HIV—background information](#) - *CATIE News*

[Tuberculosis fact sheets](#) - PHAC

## Sources

1. Phipps M. Special report of the Canadian Tuberculosis Committee: tuberculosis and HIV co-infection in Canada. *Canada Communicable Disease Report* . 2007;33(08).
2. Public Health Agency of Canada [PHAC]. Tuberculosis fact sheets. 2008. Available from: <http://www.phac-aspc.gc.ca/tbpc-latb/fa-fi/index-eng.php>
3. Lodi S, Del Amo J, d'Arminio Monforte A, et al. Risk of tuberculosis following HIV seroconversion in high-income countries. *Thorax*. 2012;68(3):207–213.
4. Public Health Agency of Canada. *Tuberculosis in Canada 2014–Pre-release* . Ottawa: (Canada): Minister of Public Works and Government Services Canada; 2016. Available from: <http://www.catie.ca/sites/default/files/Tuberculosis-in-Canada-2014-Pre-release.pdf> [accessed March 30, 2016].
5. Gallant V, Duvvuri V, McGuire M. Tuberculosis in Canada - Summary 2015. *Canada Communicable Disease Report*. 2017 March 2;43(3/4):77–82.

## Produced By:



Canada's source for  
HIV and hepatitis C  
information

555 Richmond Street West, Suite 505, Box 1104  
Toronto, Ontario M5V 3B1 Canada  
Phone: 416.203.7122  
Toll-free: 1.800.263.1638  
Fax: 416.203.8284  
www.catie.ca  
Charitable registration number: 13225 8740 RR

## Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

CATIE provides information resources to help people living with HIV and/or hepatitis C who wish to manage their own health care in partnership with their care providers. Information accessed through or published or provided by CATIE, however, is not to be considered medical advice. We do not recommend or advocate particular treatments and we urge users to consult as broad a range of sources as possible. We strongly urge users to consult with a qualified medical practitioner prior to undertaking any decision, use or action of a medical nature.

CATIE endeavours to provide the most up-to-date and accurate information at the time of publication. However, information changes and users are encouraged to ensure they have the most current information. Users relying solely on this information do so entirely at their own risk. Neither CATIE nor any of its partners or funders, nor any of their employees, directors, officers or volunteers may be held liable for damages of any kind that may result from the use or misuse of any such information. Any opinions expressed herein or in any article or publication accessed or published or provided by CATIE may not reflect the policies or opinions of CATIE or any partners or funders.

Information on safer drug use is presented as a public health service to help people make healthier choices to reduce the spread of HIV, viral hepatitis and other infections. It is not intended to encourage or promote the use or possession of illegal drugs.

## Permission to Reproduce

This document is copyrighted. It may be reprinted and distributed in its entirety for non-commercial purposes without prior permission, but permission must be obtained to edit its content. The following credit must appear on any reprint: *This information was provided by CATIE (the Canadian AIDS Treatment Information Exchange). For more information, contact CATIE at 1.800.263.1638.*

© CATIE

Production of this content has been made possible through a financial contribution from the Public Health Agency of Canada.

Available online at:  
<http://www.catie.ca/en/hiv-canada/3/3-5>