TUBERCULOSIS PREVENTION AND CONTROL IN CANADA

A FEDERAL FRAMEWORK FOR ACTION

PROTECTING CANADIANS FROM ILLNESS

Health Canada and the Public Health Agency of Canada
Santé Canada et l'Agence de la santé publique du Canada

Canada

TO PROMOTE AND PROTECT THE HEALTH OF CANADIANS THROUGH LEADERSHIP, PARTNERSHIP, INNOVATION AND ACTION IN PUBLIC HEALTH.

—Public Health Agency of Canada

Tuberculosis Prevention and Control in Canada
A Federal Framework for Action
is available on the Internet at the following address:
www.phac-aspc.gc.ca

Également disponible en français sous le titre :
Prévention et contrôle de la tuberculose au Canada
Un *cadre d'action fédéral*

To obtain additional copies, please contact:
Centre for Communicable Diseases and Infection Control
Public Health Agency of Canada
E-mail: ccdic-clmti@phac-aspc.gc.ca

This publication can be made available in alternative formats upon request.

© Her Majesty the Queen in Right of Canada, 2014

Cat.: HP40-89/2013E-PDF
ISBN: 978-1-100-23090-0
Pub.: 130511

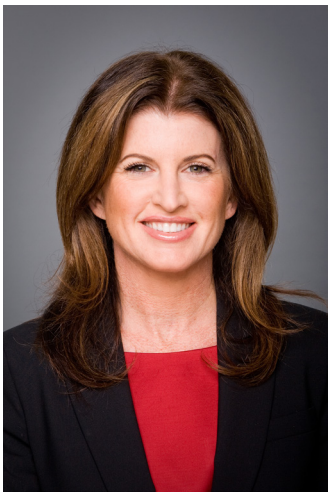
TUBERCULOSIS PREVENTION AND CONTROL IN CANADA

A Federal Framework for Action

TABLE OF CONTENTS

MINISTER'S MESSAGE . . . 1
BACKGROUND . . . 2
OVERVIEW . . . 2
POPULATIONS MOST AT RISK . . . 4
GOAL . . . 5
KEY AREAS OF FOCUS . . . 5
PUTTING THE PLAN INTO ACTION . . . 5
- PUBLIC HEALTH AGENCY OF CANADA . . . 6
- HEALTH CANADA . . . 6
- CANADIAN INSTITUTES OF HEALTH RESEARCH . . . 7
- CITIZENSHIP AND IMMIGRATION CANADA . . . 7
- CORRECTIONAL SERVICE CANADA . . . 7
- ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA . . . 7
- CANADIAN NORTHERN ECONOMIC DEVELOPMENT AGENCY . . . 8

CONCLUSION . . . 8



MINISTER'S MESSAGE

I am pleased to present the government's *Tuberculosis Prevention and Control in Canada: A Federal Framework for Action*. Despite advances in medicine and public health, tuberculosis remains a very real concern not only globally but also in Canada, and continues to affect individuals, families and communities.

The Framework for Action demonstrates the federal government's commitment to address the high rates of tuberculosis within affected communities, including the factors that contribute to the spread of the disease.

Tuberculosis in Canada is more common among Canadian-born Aboriginal peoples and among foreign-born individuals from countries with a high incidence of tuberculosis.

Through this Framework, the federal government will focus its efforts on reducing the burden of tuberculosis within those populations by:

- Optimizing and enhancing current efforts to prevent and control active tuberculosis disease
- Facilitating the identification and treatment of latent tuberculosis infection for those at high risk of developing active tuberculosis disease
- Championing collaborative action to address the underlying risk factors for tuberculosis

Addressing tuberculosis is a shared responsibility among communities, governments and non-governmental organizations. I believe that through collaborative action, we can envision a time in the foreseeable future when tuberculosis is no longer an issue in Canada.

Rona Ambrose

The Honourable Rona Ambrose, P.C., M.P

Minister of Health

BACKGROUND

Tuberculosis (TB) is an infectious disease, caused by a bacterium called *Mycobacterium tuberculosis*, which is spread through the air from person to person. An individual with active TB disease of the lungs or airways can potentially spread TB to others through actions such as coughing, sneezing, singing or sometimes even just talking. TB can also spread to other parts of the body such as the lymph nodes, kidneys, bones and joints, intestines, and the brain and spinal cord. Individuals exposed to the bacterium may acquire latent TB infection (i.e. the bacterium remains dormant and does not cause symptoms or make the person infectious). Among individuals who become infected, approximately 5% will develop active TB disease within two years. A range of factors and conditions may contribute to the progression from latent TB infection to active TB disease.

TB prevention and control is a shared responsibility among federal, provincial and territorial governments. This document sets out the federal commitments to address TB prevention and control in populations most at risk in Canada, in particular Aboriginal peoples and foreign-born individuals from countries with a high TB incidence.

In Canada, identifying and treating individuals with active TB disease remains the focus. However, identifying and treating individuals with latent TB infection at high risk of developing active TB disease is also important in reducing the burden of TB. Furthermore, there is growing recognition of the need to address the social determinants of health that can increase both the risk of exposure to TB and the progression from latent TB infection to active TB disease.

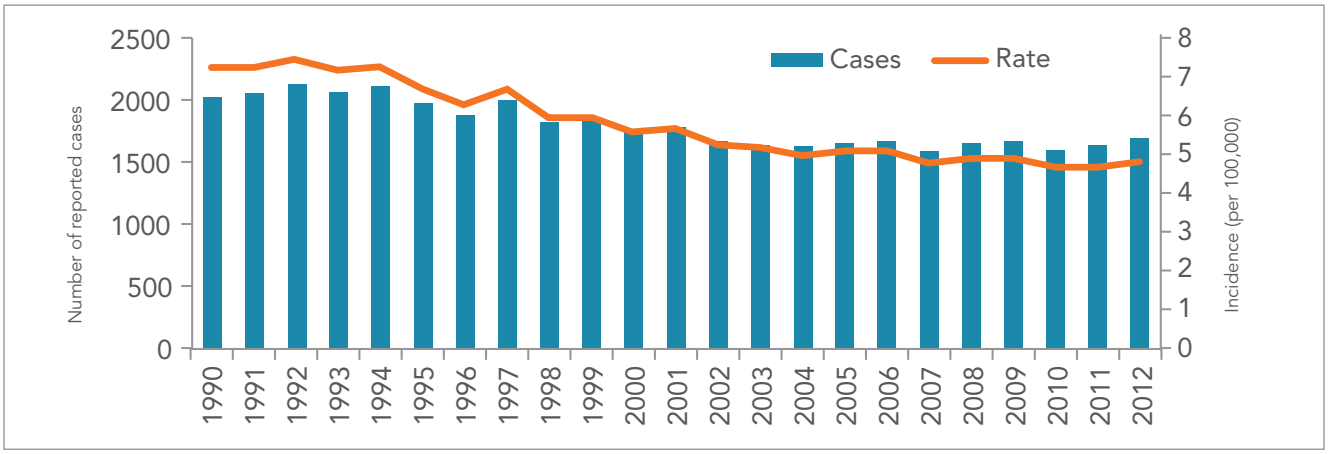
Internationally, Canada supports the goals of the Stop TB Partnership, including a 50% reduction in TB prevalence and death rates worldwide by 2015 compared with their levels in 1990 and the elimination of TB as a public health problem by 2050. According to the World Health Organization, the Region of the Americas has met its targets well in advance of the 2015 deadline. Despite these gains, and the fact that the reported incidence of active TB disease in the general Canadian population is among the lowest in the world, the Government of Canada remains committed to working with provincial and territorial governments to reduce the threat of TB in those communities that remain at risk for the disease.

OVERVIEW

CONTEXT

TB is a major global health problem that affects millions of people each year. It ranks as the second leading cause of death from an infectious disease worldwide, second only to AIDS. It is estimated that one third of the world's population has latent TB infection with an estimated 8 to 10 million developing active TB disease annually. Although the incidence of active TB disease in the overall Canadian population has been decreasing over time (see Figure 1) and is among the lowest in the world, high rates persist among Aboriginal peoples and among foreign-born individuals (see Figure 2). While multi-drug resistant TB is a serious concern in many countries, it has not been seen as a major problem in Canada to date.

FIGURE 1 - ANNUAL NUMBER OF REPORTED TUBERCULOSIS CASES AND INCIDENCE RATE IN CANADA: 1990 - 2012

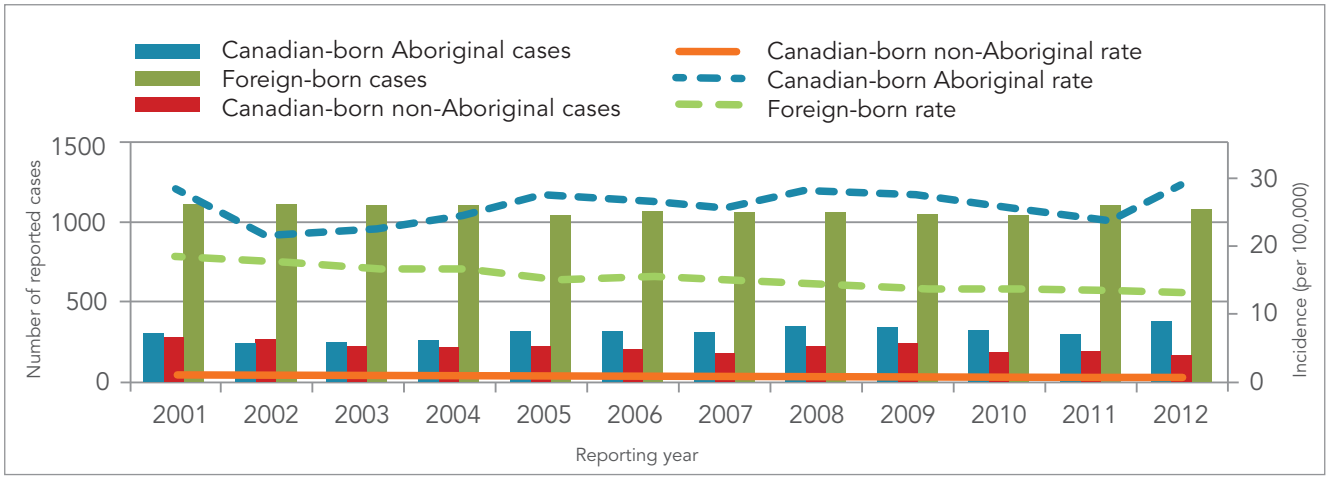


Canada is a key contributor to the global fight against TB. Through Foreign Affairs, Trade and Development Canada's strong and effective collaboration with partners such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Stop TB Partnership, and the World Health Organization, Canada's approach focuses on providing quality health care services to individuals with TB in developing countries. Furthermore, the International Development Research Centre is well positioned to support TB-related research in developing countries.

Preventing cases of active TB disease in Canada and abroad also helps reduce the burden on the Canadian healthcare system. In 2004, total TB-related expenditures in Canada were estimated at $74 million, with the average cost of treating a case of active TB being approximately $47,000.[1] Treatment for latent TB infection, on the other hand, is estimated to be less than $1000 per patient.

[1] Menzies, D., Lewis, M., & Oxlade, O. (2008). Costs for Tuberculosis Care in Canada. Canadian Journal of Public Health, 99(5), 391-396.

FIGURE 2 - ANNUAL NUMBER OF REPORTED CASES AND INCIDENCE RATES BY POPULATION: 2001-2012



POPULATIONS MOST AT RISK

In Canada, the two populations with the highest reported incidence rates of active TB disease are Aboriginal peoples and foreign-born individuals from countries with a high TB incidence.

These disproportionately high rates of active TB disease reflect significant health inequalities[2] between these two populations and the general Canadian population. Health promotion and disease prevention approaches are essential to address these inequalities. Unique approaches are needed to address TB for each of these two populations.

ABORIGINAL POPULATIONS

In 2012, Aboriginal peoples, who comprised approximately 4% of the population of Canada, accounted for 23% of reported cases of active TB disease in Canada. Compared to the Canadian-born non-Aboriginal population, the incidence rate of active TB disease for Inuit was almost 400 times higher. For First Nations people (on- and off-reserve) the rate was 32 times higher.

Some Aboriginal communities face additional challenges. For example, overcrowding and poorly ventilated homes can increase individuals' exposure to TB, and poor nutrition can increase the risk of those with latent TB infection progressing to active TB disease. Co-morbidities, such as diabetes and HIV infection, also increase this risk. These factors can be exacerbated in remote and isolated communities because of limited and/or delayed access to health care services.

» **TAIMA TB** was a project funded by the Public Health Agency of Canada. It was designed to increase awareness about TB in Iqaluit. It also set out to test a novel approach to address latent TB infection testing and treatment through a door-to-door campaign targeting high-risk areas.

FOREIGN-BORN POPULATIONS

In 2012, foreign-born individuals accounted for 64% of reported cases of active TB disease and experienced a rate of TB 20 times higher than that of the Canadian-born non-Aboriginal population. The annual number of reported cases has remained relatively stable over the years. However, the incidence has declined due to the increase in the size of the foreign-born population in Canada. Social determinants of health, such as poverty and the stresses associated with integration into Canadian society, may increase the risk of latent TB infection acquisition or progression to active TB disease.

[2] Health inequalities refer to differences in health status experienced by different groups in society.

GOAL

The goal of this Framework for Action is to reduce the national incidence of reported TB in Canada to 3.6 per 100,000 or less by 2015.

KEY AREAS OF FOCUS

Through this Framework for Action, the federal government will focus its efforts on reducing the incidence and burden of TB within Aboriginal and foreign-born populations by:

I. **Optimizing and enhancing current efforts to prevent and control active TB disease**
Early detection and treatment of persons who have active TB disease, and the investigation of their contacts, is a priority in controlling the spread of the disease. In accordance with its federal role, the Government of Canada will continue to undertake national surveillance, provide guidance for TB prevention and control practices, develop and enhance tools for public health practitioners, and share best practices[3] that will optimize current efforts.

II. **Facilitating the identification and treatment of latent TB infection for those at high risk of developing active TB disease**
The early detection and treatment of individuals with latent TB infection who are at high risk of progression to active TB disease is a key component of an effective TB prevention and control program. Risk factors include HIV infection, smoking, diabetes and other chronic diseases, malnutrition, impaired immunity, extremes of age, poverty and overcrowding. Initiatives to address latent TB infection aim to prevent individuals with latent TB infection from developing active TB disease and subsequently transmitting the disease to others.

III. **Championing collaborative action to address the underlying risk factors for TB**
The burden of TB is strongly related to social determinants of health. Some of those determinants may increase the risk of exposure to TB while others may increase the risk of progression from latent TB infection to active TB disease (e.g. poverty, overcrowded housing, poor ventilation, and homelessness). Other underlying factors that influence the transmission of TB and the risk of progression from latent TB infection to active TB disease include HIV infection, smoking, diabetes, other chronic diseases, malnutrition, impaired immunity, and the extremes of age.

PUTTING THE PLAN INTO ACTION

The Health Portfolio, which includes the Public Health Agency of Canada, Health Canada and the Canadian Institutes of Health Research, works to address TB in Canada. Two federal government departments, Citizenship and Immigration Canada and Correctional Service Canada, deliver health care services to populations for which they are responsible. Other departments and agencies, including Aboriginal Affairs and Northern Development Canada and the Canadian Northern Economic Development Agency, also contribute in important ways and share the responsibility for putting this framework into action.

[3] Pan-Canadian Public Health Network. (2012). Guidance for Tuberculosis Prevention and Control Programs in Canada.

PUBLIC HEALTH AGENCY OF CANADA

The Public Health Agency of Canada provides national leadership related to the public health aspects of TB and works collaboratively with domestic and international partners to address TB prevention and control. This includes:

- Undertaking surveillance to monitor epidemiological trends of active TB disease and TB drug resistance
- Providing support for TB outbreak management
- Enforcing measures under the *Quarantine Act* to prevent the introduction and spread of TB within Canada's borders
- Providing guidance to health care professionals and public health authorities regarding best practices in prevention, diagnosis and treatment
- Providing laboratory reference services through the National Microbiology Laboratory
- Supporting the TAIMA TB project to expand and increase awareness of TB in Iqaluit in order to address the high rates of tuberculosis in Iqaluit, in partnership with the Government of Nunavut
- Engaging with other federal departments and agencies to address socio-economic factors that contribute to TB
- Working collaboratively with domestic and international partners to improve TB prevention and control activities

» **The Canadian Tuberculosis Standards** is a joint production of the Public Health Agency of Canada and the Canadian Thoracic Society of the Canadian Lung Association. It constitutes an important resource for healthcare professionals and can help guide decisions related to screening and the management of TB.

HEALTH CANADA

FIRST NATIONS AND INUIT HEALTH BRANCH

To help address TB in on-reserve communities, Health Canada released its *Strategy Against Tuberculosis for First Nations On-Reserve* in March 2012. Guided by this strategy, the department has worked with provincial governments, other federal entities including the Public Health Agency of Canada, and First Nations leadership to develop and maintain partnerships that will lead to:

- Improved community involvement in TB prevention and control
- More clarity around roles and responsibilities among jurisdictions
- Increased TB awareness
- Greater alignment of TB programs with other public health programming offered to on-reserve residents
- Greater collaboration to address issues such as integrated access to care and the social determinants of health
- The delivery of TB services either directly or through funding to communities, provinces and/or regional health authorities for the provision of services

» **Health Canada's Strategy Against Tuberculosis for First Nations On-Reserve** represents an important step towards nurturing and sustaining the partnerships necessary for addressing TB in on-reserve First Nations communities.

HEALTH PRODUCTS AND FOOD BRANCH

- Monitoring and regulating diagnostics, therapeutics and medical devices related to TB

CANADIAN INSTITUTES OF HEALTH RESEARCH

The Canadian Institutes of Health Research (CIHR) funds research initiatives related to TB. CIHR supports several aspects of TB research, including biomedical, clinical, health system and population health issues. This includes:

- Supporting research initiatives that focus on access to high quality TB treatment; HIV/TB co-morbidity; diagnostic tools; intervention implementation; latent TB infection; and drug resistant TB
- Launching of *Pathways to Health Equity for Aboriginal Peoples*, one of eight CIHR Roadmap Signature Initiatives with a focus on finding ways to increase and adapt existing health research to the diverse needs of Aboriginal communities
- Building capacity in TB research through New Investigator and doctoral awards

CITIZENSHIP AND IMMIGRATION CANADA

Consideration of TB is an integral part of the immigration medical examination for applicants from countries around the world. Citizenship and Immigration Canada's TB -related activities include:

- Detecting and referring for treatment cases of active TB, and ensuring that treatment is completed prior to entry into Canada as well as referring for treatment to health providers applicants detected with active TB disease who are applying from within Canada
- Enhancing targeted screening for TB, including latent TB infection and drug resistance, and referring individuals for care in accordance with the *Canadian Tuberculosis Standards*
- Refining risk mitigation strategies with regard to screening for immigration purposes and surveillance notification to provincial/territorial public health authorities

» **Citizenship and Immigration Canada's Immigration Medical Examination Program** detects over 400 cases of active TB disease each year. Treating immigrants before their arrival in Canada prevents subsequent spread of infection in Canada.

CORRECTIONAL SERVICE CANADA

Correctional Service Canada works at all levels in close collaboration with community stakeholders such as local public health officials/TB control authorities, community hospitals/clinics, and TB specialists to prevent and control TB among the federally incarcerated population and staff working in institutions. This includes:

- Screening for TB on admission to Correctional Service Canada
- Offering an annual TB assessment to every inmate while incarcerated
- Managing and treating all suspected and/or confirmed active TB cases in accordance with provincial and federal TB control guidelines
- Offering treatment to inmates diagnosed with latent TB infection

ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA

Aboriginal Affairs and Northern Development Canada (AANDC) supports Aboriginal peoples (First Nations, Inuit and Métis) and Northerners in their efforts to improve social well-being and economic prosperity; develop healthier, more sustainable communities; ensure that Aboriginal perspectives are reflected in the development of government policies and programs; and participate more fully in Canada's political, social and economic development to the benefit of all Canadians.

Inuit were particularly affected by the management of the nationwide TB epidemic in Canada during the 1940s and up until the 1970s. In 1956, one out of every seven Inuit was receiving treatment in the South. Working with Inuit and federal partners, AANDC established in 2010 Nanilavut (Inuktitut for "let's find them") – a multi-stakeholder working group mandated to help identify the location of Inuit graves and create a database of relevant information sources.

Key AANDC programs and initiatives that contribute to well-being are:

- Income support and services for low-income residents living on reserve
- The delivery of culturally appropriate prevention and protection services to First Nations children and their families
- Access to safe and affordable housing and drinking water in on-reserve communities
- Increased access to nutritious, perishable food for Canadians living in isolated northern communities (e.g., Nutrition North Program)
- A unique partnership approach in which all levels of government, urban Aboriginal communities and the private and non-profit sectors come together to identify the needs of urban Aboriginal peoples

CANADIAN NORTHERN ECONOMIC DEVELOPMENT AGENCY

Established in 2009, the Canadian Northern Economic Development Agency works to help develop a diversified, sustainable, and dynamic economy across Canada's three territories, while at the same time contributing to Canada's prosperity. The Canadian Northern Economic Development Agency works with communities to develop and diversify local economies, and take advantage of the immense strengths of northern Canada.

CONCLUSION

While significant progress has been made in TB prevention and control in Canada over the last several decades, further action is needed to address the high incidence of active TB disease that persists among Aboriginal peoples and foreign-born individuals in Canada. The Government of Canada has an important role to play in preventing and controlling TB, building on best practices, collaborating with other governments and stakeholders, and contributing to the global response.