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# TUBERCULOSIS IN CANADA



# 2003

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**Tuberculosis Prevention and Control  
Community Acquired Infections Division  
Centre for Infectious Disease Prevention and Control  
Public Health Agency of Canada  
100 Eglantine Driveway, Health Canada Building  
A.L. 0603B, Tunney's Pasture  
Ottawa, Ontario K1A 0K9**

**Internal Postal Address: 0603B  
Telephone: (613) 941-0238  
Facsimile: (613) 946-3902**

This report can also be accessed on the internet at:

**<http://www.publichealth.gc.ca/tuberculosis>**

This report was prepared by:

**Edward Ellis, MD, MPH, FRCPC  
Manager  
Tuberculosis Prevention and Control**

**Derek Scholten, MSc  
Epidemiologist  
Tuberculosis Prevention and Control**

**Melissa Phypers, MSc  
Senior Epidemiologist  
Tuberculosis Prevention and Control**

**Victor Gallant, MA  
Tuberculosis Database Manager  
Tuberculosis Prevention and Control**

**Mindy Miron  
Surveillance Officer  
Tuberculosis Prevention and Control**

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**TUBERCULOSIS**

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**IN CANADA**

**2003**

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# TUBERCULOSIS AND HIV CO-INFECTION IN CANADA

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## INTRODUCTION

The HIV epidemic has had a dramatic impact on tuberculosis (TB) rates and TB control in both industrialized and low-income countries. TB and HIV virulence increases synergistically. TB causes more rapid deterioration of the immune system in people with HIV or AIDS. In the absence of anti-retroviral therapy, individuals with TB and HIV infection are as much as 100 times more likely to have active TB during their lifetime than people who are HIV negative, making HIV the most potent predictor of progression to active TB disease.<sup>1-4</sup> Globally, TB is the most common cause of death in HIV-infected individuals.<sup>5</sup> Of all adult TB cases aged 15-49 reported globally, 9 % are attributable to HIV/AIDS.<sup>6</sup>

## TB-HIV CO-INFECTION IN CANADA

Despite close links between these two pathogens and increasing efforts to address both concurrently, uptake of screening policies linking HIV and TB has been slow.<sup>7</sup> Universal HIV testing for newly diagnosed TB cases and TB assessment for all newly diagnosed HIV cases has been recommended in Canada for over a decade.<sup>8,9</sup> Despite this, evidence suggests that universal testing for HIV among new TB cases is not occurring.<sup>10</sup> A review of TB cases from 1997 and 1998 reported to the Canadian Tuberculosis Reporting System (CTBRS) found the percentage of TB cases with record of an HIV test was only 21.1%.<sup>11</sup>

Several published Canadian studies have been conducted to determine the overlap that exists between TB and HIV. However, methodologies vary widely. Estimates of individuals with HIV or AIDS and active TB range from 1.6-5.8%.<sup>12-16</sup> Studies conducted in Montreal and British Columbia estimated HIV infection among TB disease cases at 3.8 and 13.8% respectively.<sup>17,18</sup> The CTBRS study referred to above, found that among those whose test results were known the prevalence of HIV infection was 15.0% (3% co-infection for the entire cohort).<sup>19</sup>

Corbett et al. have estimated that 10-19% of adult TB cases in Canada are attributable to HIV.<sup>20</sup> The World Health Organization (WHO) has estimated HIV prevalence in adult incident TB cases in Canada in 2004 to be 8.7%.<sup>21</sup>

The CTBRS captures information on HIV co-infection for all TB cases reported in Canada. Between 1997 and 2004, the proportion of tuberculosis cases for which HIV status is known has increased from 5.7 to 23.2%.<sup>22</sup> Reporting by province/territory for 2004 is shown in Table 1. Determining the Canadian incidence of TB-HIV co-infection from this surveillance system is not yet possible. In 2004, HIV status was reported for only 23% of cases, of which 15% were HIV sero-positive. In the unlikely event that these were the only co-infected cases, the overall co-infection rate was 4%. Additional epidemiologic information for co-infected TB cases (i.e., age, sex, and ethnicity) can not be determined from this system due to the paucity of the data. Information from other sources have identified two important sub-populations at greater risk for TB-HIV co-infection: Aboriginal Peoples and new immigrants to Canada.

**Table SR-1**

**HIV status among TB cases in Canada by province 2004 (% of cases HIV status known)**

HIV status	Province/territory													
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Negative	336			2	5	40	2	42		89	128	2	10	16
Positive	38					5	7	9		2	15			
Test not offered	1										1			
Test refused	2										2			
Unknown	1,236	7	1	6	5	174	691	93	70	18	153	2		16
<b>TOTAL</b>	<b>1,613</b> <b>(23.2)</b>	<b>7</b> <b>(0)</b>	<b>1</b> <b>(0)</b>	<b>8</b> <b>(25)</b>	<b>10</b> <b>(50)</b>	<b>219</b> <b>(20.5)</b>	<b>700</b> <b>(1.3)</b>	<b>144</b> <b>(35.4)</b>	<b>70</b> <b>(0)</b>	<b>109</b> <b>(83.5)</b>	<b>299</b> <b>(47.8)</b>	<b>4</b> <b>(50)</b>	<b>10</b> <b>(100)</b>	<b>32</b> <b>(50)</b>

## Aboriginal

First Nations populations are at considerable risk for both TB and HIV, and as a consequence at very high risk of TB-HIV co-infection.<sup>23,24</sup> Although TB-HIV co-infection appears low in First Nations communities, limited data make it impossible to make an accurate determination. A 1999 report of the First Nations and Inuit Health Branch (FNIHB), Health Canada, reported only isolated cases of co-infection among the First Nations on reserve population.<sup>25</sup>

## Immigrants

In 2002, Citizenship and Immigration Canada (CIC) began mandatory HIV testing as part of the immigration medical examination (IME).<sup>\*</sup> From January 2002 to September 2006, approximately 2,400 individuals were identified as HIV-positive during the IME process. The majority of these individuals are admissible on health grounds to Canada and come from TB-endemic countries. Therefore, the potential for TB-HIV co-infection in this population is likely significant.

## DISCUSSION AND CONCLUSIONS

The level of TB-HIV co-infection in Canada is uncertain. Estimates range from 1.6 – 19%. Data such as that reported to the CTBRS are inadequate to measure the HIV positivity among TB cases or to further define subgroups of TB patients at higher risk of HIV infection. In Canada, co-infection is likely to become more important, particularly in immigrants and refugees from high TB and HIV incidence countries and in Aboriginal peoples.

What the CTBRS data do demonstrate however, is that universal testing and reporting are not occurring, despite the fact that TB patients constitute a high-priority group for epidemiologic surveillance for HIV and despite the long-standing existence of recommendations for universal testing and reporting.<sup>9</sup>

In order to assess accurately the extent TB-HIV co-infection in Canada and to ensure effective treatment and the delivery of appropriate care and prevention programmes, a further increase in testing and reporting is essential.

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\* An immigration medical examination is required for all applicants for permanent residency (i.e. immigration) and certain temporary residents (depending on such factors as anticipated length of stay in Canada, originating country and intended occupation in Canada).

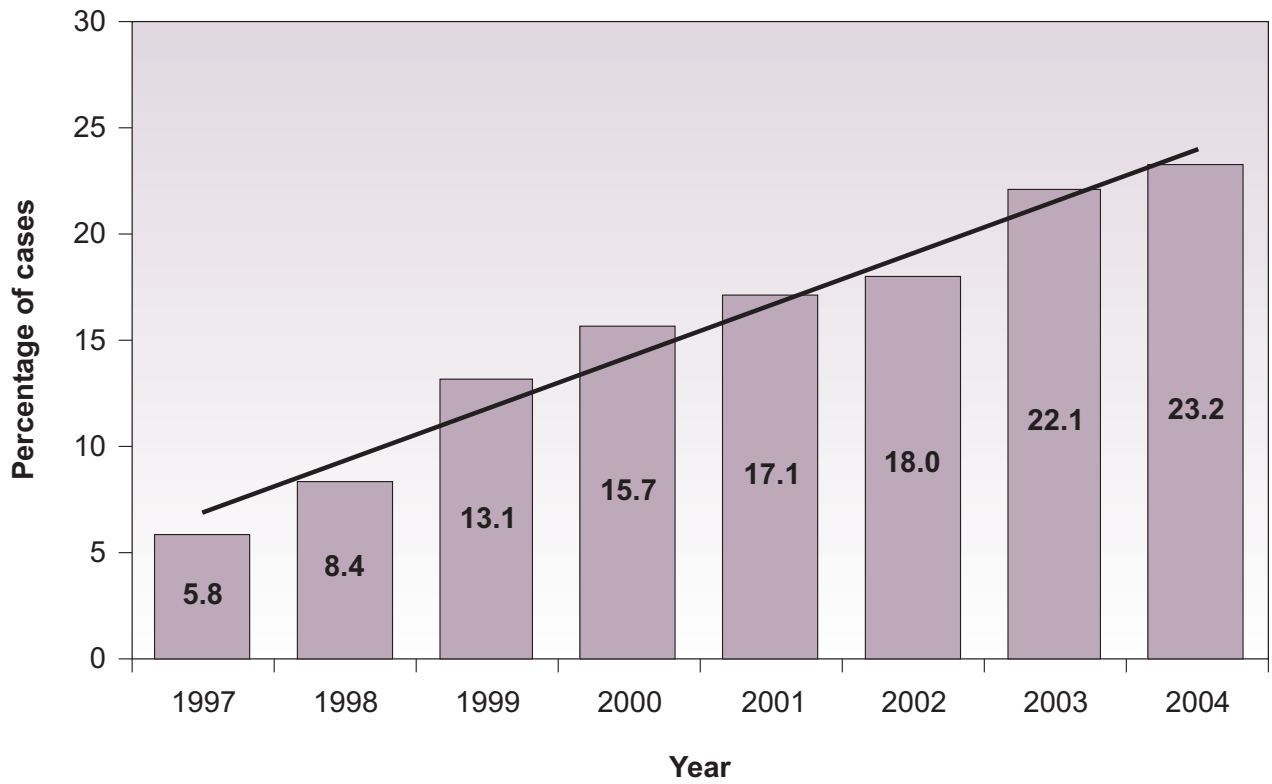
An HIV test is required as part of the immigration medical examination for:

- all individuals aged 15 and above;
- those below age 15 if there are known risk factors



**Figure SR-1**

**Proportion of TB cases reported in Canada for which HIV status is known: 1997-2004**



This report was prepared by:

Melissa Phypers  
Senior Epidemiologist  
Tuberculosis Prevention and Control  
Public Health Agency of Canada

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Department of Health and Social Service  
Government of Northwest Territories

Office of the Chief Medical Officer of  
Health, Nova Scotia Department of Health

Department of Health & Social Services  
Government of Nunavut

Vaccine Preventable Diseases and TB  
Control Unit, Ontario Ministry of Health  
and Long-Term Care

Department of Health and Social Services  
Prince Edward Island

Direction de la Protection de la Santé  
Publique, Ministère de la Santé et des  
Services Sociaux, Quebec

Tuberculosis Control Program  
Saskatchewan Health

Department of Health and Social Services  
Yukon

Association of Medical Microbiology and  
Infectious Disease Canada

Canadian Lung Association

Canadian Public Health Laboratory  
Network

Citizenship and Immigration Canada

Correctional Service Canada

First Nations and Inuit Health Branch,  
Health Canada

National Microbiology Laboratory  
Public Health Agency of Canada

Tuberculosis Prevention and Control  
Public Health Agency of Canada

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## EXECUTIVE SUMMARY

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In 2003, 1,628 cases (5.1 per 100,000) of new active and relapsed TB were reported to the Canadian Tuberculosis Reporting System (CTBRS). The highest rate, 28.4 per 100,000, was reported from the Northwest Territories. TB incidence rate was lowest in Nova Scotia where the reported incidence rate was 0.6 per 100,000. The three most populous provinces (British Columbia, Ontario and Quebec), which collectively make up 75% of Canada's population, accounted for 77% of the total reported cases.

Individuals between the ages of 25 and 34 years made up the largest number of reported cases, accounting for 20% of the total. However, the corresponding case rate of 7.6 per 100,000 for this age group was surpassed by the age-specific rates of 8.1 and 10.9 per 100,000 for those in the older age groups of 65 to 74 years and greater than 74 years, respectively.

In 2003, TB among foreign-born individuals accounted for 68% of all reported cases. Canadian-born non-Aboriginal and Canadian-born Aboriginal cases made up 14% and 15%, respectively. Birthplace was unknown for 3% of cases.

Pulmonary TB, defined as tuberculosis of the lungs and conducting airways, was the most frequently reported main diagnostic site, representing 59% of all reported cases in 2003. TB of the peripheral lymph nodes accounted for 15% of all cases and was the second most commonly reported diagnostic site.

Of the 1,628 cases reported in 2003, 1,160 cases were culture positive, of which 1,102 had resistance information reported. Of these, 988 (90%) had no resistance to first-line TB drugs. Six percent were resistant to one drug and the remaining 4% showed patterns of resistance to two or more drugs prescribed. The most common type of mono-resistance was to isoniazid (INH) accounting for 38% of all reported resistance. Multi-drug resistant TB (defined as resistance to at least isoniazid and rifampin) accounted for 1.1% of all patients who had drug sensitivity testing.

For TB cases initially reported in 2002, 1,462 patients had treatment outcomes submitted in 2003 either as an individual case report (631) or in aggregate (831 cases).

A total of 1,206 of all cases (82%) were reported as being culture negative or having completed treatment.

The vast majority of individuals placed on TB drug therapy in Canada received treatment as per the *Canadian Tuberculosis Standards, 5th edition, 2000*. Eighty-eight percent of these cases received three or more anti-tuberculosis drugs.

The total number of reported cases of TB in Canada has shown a continual decrease over the past decade. However, this decrease is mostly a reflection of a decreasing number of cases in the Canadian-born non-Aboriginal population. The number of cases in the Canadian-born Aboriginal population has shown a minimal decrease, whereas cases in the foreign-born population have remained relatively constant.

# INTRODUCTION

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The *2003 Tuberculosis in Canada* annual report is a publication of Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada (PHAC). Reports of new active and relapsed tuberculosis cases come to TBPC through the Canadian Tuberculosis Reporting System (CTBRS) from the ten provinces and three territories.

TBPC stores and maintains surveillance reports on tuberculosis in Canada from the early 1920s. Health Canada assumed responsibility from Statistics Canada for the CTBRS in 1994. In September 2004, TBPC became part of the PHAC which assumed responsibility for the annual reporting.

The report contains information on the overall TB case counts and case rates for selected demographic and clinical characteristics. The report outlines case and treatment outcome data on the following:

- province/territory
- sex
- age
- birthplace
- new and relapsed cases
- main diagnostic site
- bacterial status
- method of detection
- immigration status
- HIV status
- patterns of drug resistance
- treatment outcomes
- drug regimens

Appendices to the report include data tables (*Appendix I*), technical notes on the methods (*Appendix II*), population estimates for 2003 (*Appendix III*) and the World Health Organization (WHO) estimated incidence of TB in the 22 high burden countries, 2003 (*Appendix IV*). Further appendices include the WHO TB epidemiological regions and the member countries (*Appendix V*), the WHO reporting form for 2003 cases (*Appendix VI*), Canadian case and treatment outcome reporting forms (*Appendix VII*) and the members of the Canadian Tuberculosis Committee (*Appendix VIII*).

The annual reports on tuberculosis have undergone and will continue to undergo revisions in format and content from year to year. It is our goal to continue to adapt and improve this publication in response to changes in the epidemiology and clinical management of tuberculosis. We welcome any comments on the content or format of this document.

# RESULTS

## SECTION I – 2003 CASE REPORTING

### NATIONAL TRENDS

Following a peak in the epidemic in the early 1940s, the reported incidence of TB has shown continued decline (Figure 1). Over the past decade the reported incidence and number of cases of TB has continued to decrease (Figure 2; Table A). In 2003, 1,628 cases of TB were reported to the CTBRS representing an incidence rate of 5.1 per 100,000. New active cases made up the vast majority of reported cases (4.6 per 100,000); the rate of relapse was 0.3 per 100,000.

**Table A**

**Incidence rate of tuberculosis in Canada, three-year moving average: 1992-2003**

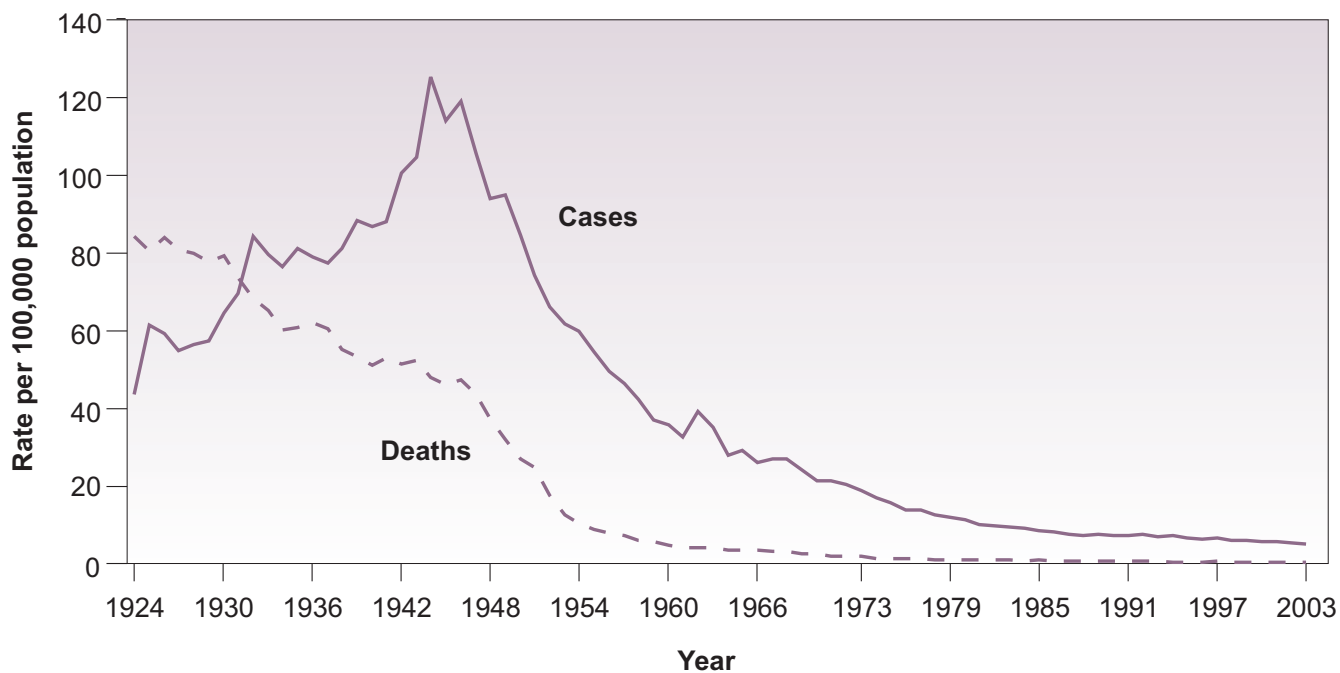
Year	Number of reported cases	Crude rate per 100,000	Three-year moving average
1992	2,109	7.4	—
1993	2,013	7.0	7.2
1994	2,074	7.2	7.0
1995	1,964	6.7	6.7
1996	1,877	6.3	6.6
1997	1,995	6.7	6.3
1998	1,809	6.0	6.2
1999	1,820	6.0	5.9
2000	1,723	5.6	5.8
2001	1,770	5.7	5.5
2002	1,670	5.3	5.4
2003	1,628	5.1	—

### GEOGRAPHIC DISTRIBUTION

Several jurisdictions reported incidence rates below the national rate. TB incidence remained lowest in Yukon and the Atlantic provinces (New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island) and was highest in the Northwest Territories and Nunavut (Table B, Figure 3).

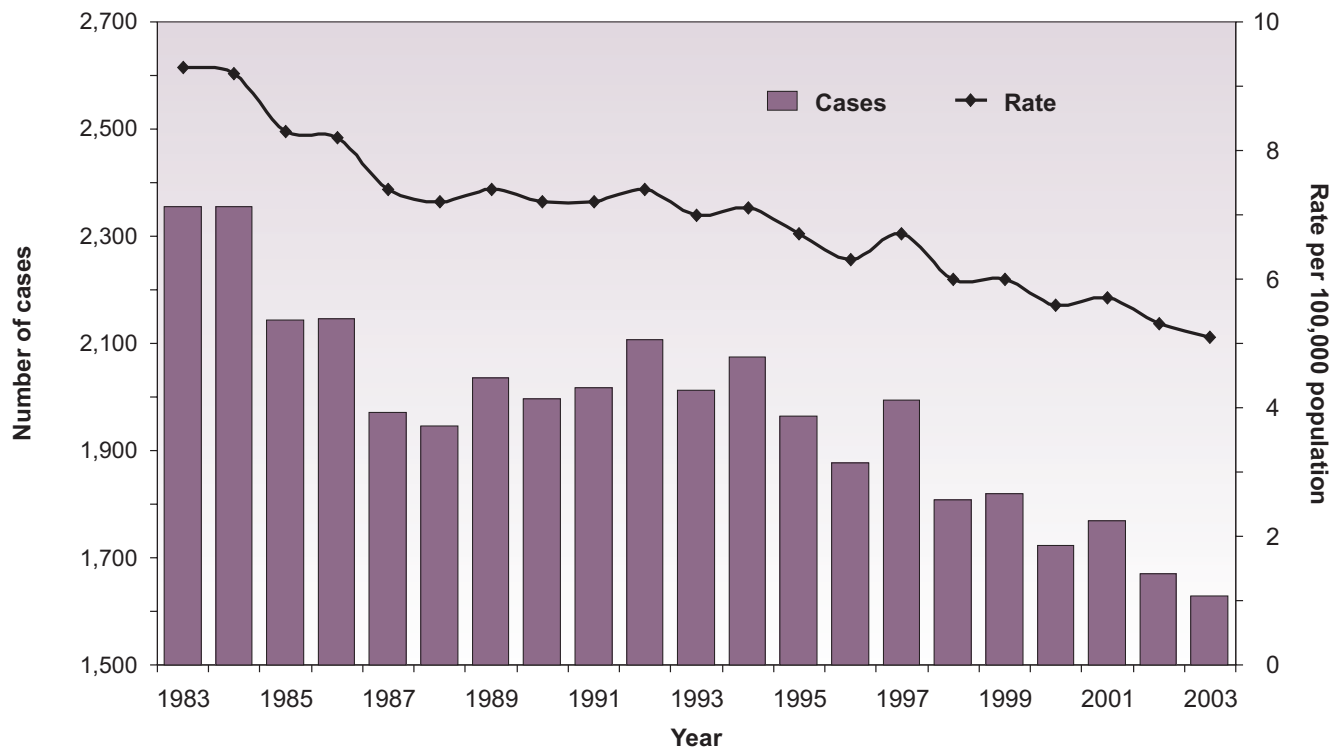
**Figure 1**

**Tuberculosis incidence and mortality rates – Canada 1924-2003**



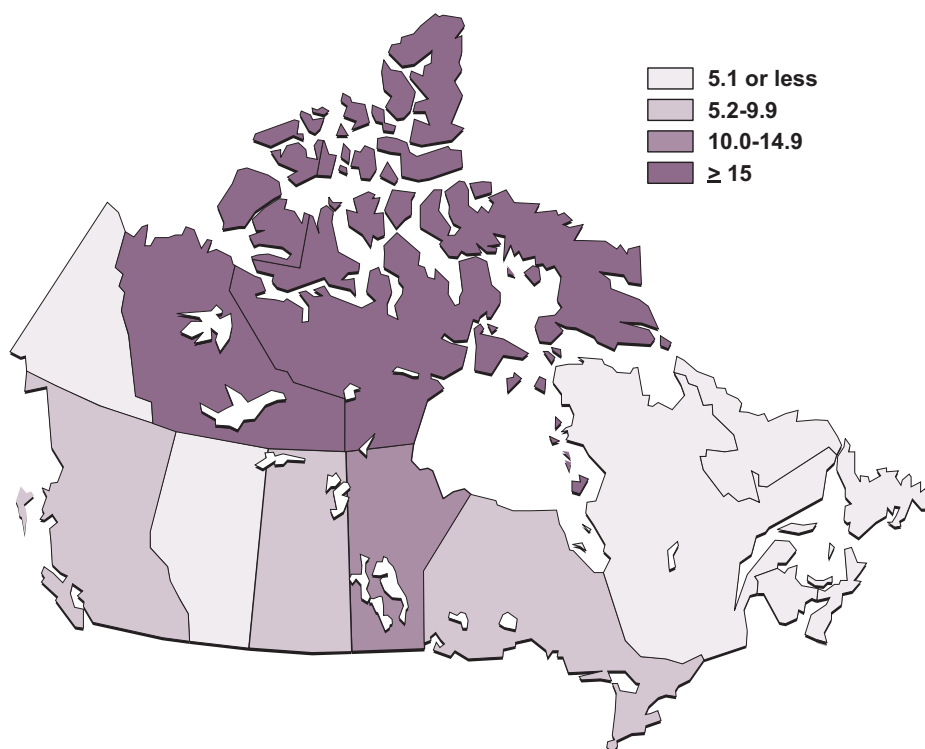
**Figure 2**

**Tuberculosis cases and incidence rate – Canada: 1983-2003**



**Table B****Ranked tuberculosis incidence in Canada – provinces/territories: 2003**

Reporting province or territory	Abbreviation	Incidence rate per 100,000
Northwest Territories	N.W.T.	28.4
Nunavut	Nvt.	24.0
Manitoba	Man.	10.9
Saskatchewan	Sask.	9.2
British Columbia	B.C.	7.3
Ontario	Ont.	5.7
Alberta	Alta.	3.5
Quebec	Que.	3.4
Yukon	Y.T.	3.3
Prince Edward Island	P.E.I.	2.2
New Brunswick	N.B.	1.6
Newfoundland	N.L.	1.2
Nova Scotia	N.S.	0.6
<b>CANADA</b>		<b>5.1</b>

**Figure 3****Tuberculosis incidence rate by province/territory as compared with national rate (5.1 per 100,000): 2003**



## SEX AND AGE GROUP DISTRIBUTION

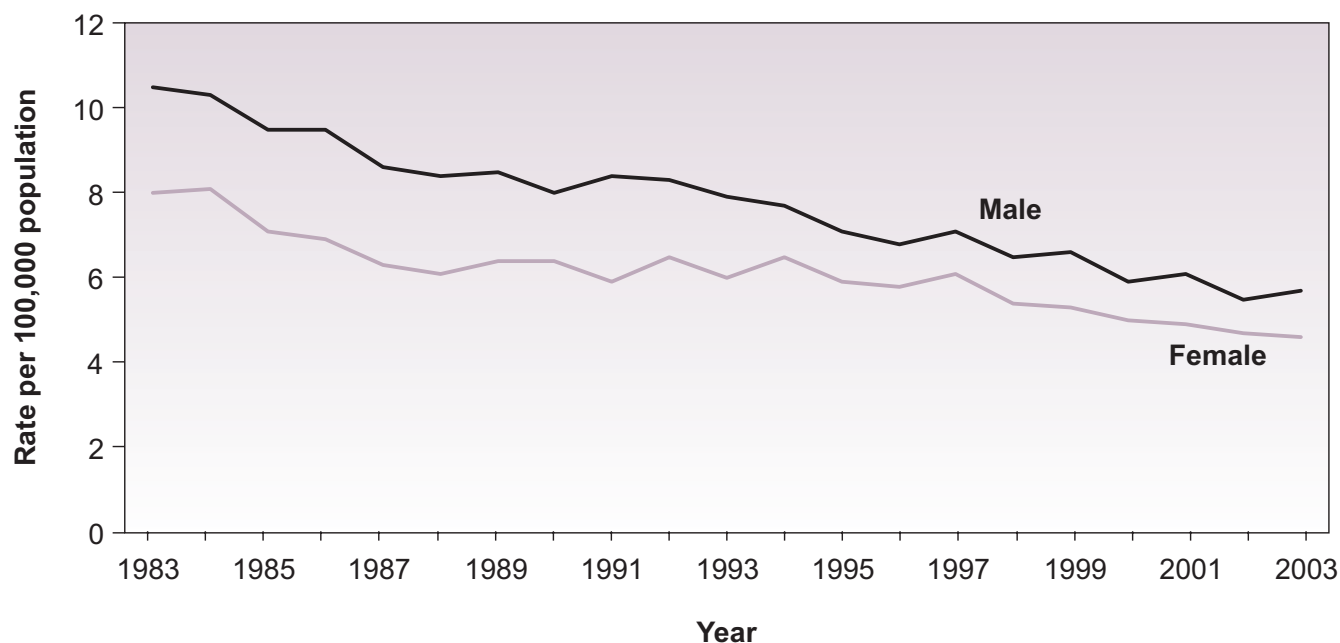
Over the past two decades, incidence rates of TB in males and females have followed a similar pattern of decline. While case reporting and incidence have always been higher in males, there has been a noted decrease in the differential between males and females over the past several years. In 2003, the presentation of tuberculosis by sex continued to reveal a larger number of reported cases among males (894 cases, 5.7 per 100,000) than among females (734 cases, 4.6 per 100,000) (Figure 4; *Appendix I*, Tables 2B and 2C).

In 2003, individuals aged 25 to 34 years made up the largest number of reported cases, accounting for 20% of the total. However, the corresponding incidence rate of 7.6 per 100,000 for this age group was surpassed by the age-specific rates of 8.1 and 10.9 per 100,000 for those in the older age groups of 65 to 74 and greater than 74 years, respectively (Figure 5; *Appendix I*, Table 2A). Canadian-born non-Aboriginal cases were relatively older (median 54 years) than foreign-born (median 42 years) and Canadian-born Aboriginal TB cases (median 33 years).

By age group and sex the incidence rate of TB was similar in males and females for all age groups with the exception of those aged 65 and older. The incidence rate in males was approximately twice the rate of TB in females (Figure 6; *Appendix I*, Tables 2B and 2C).

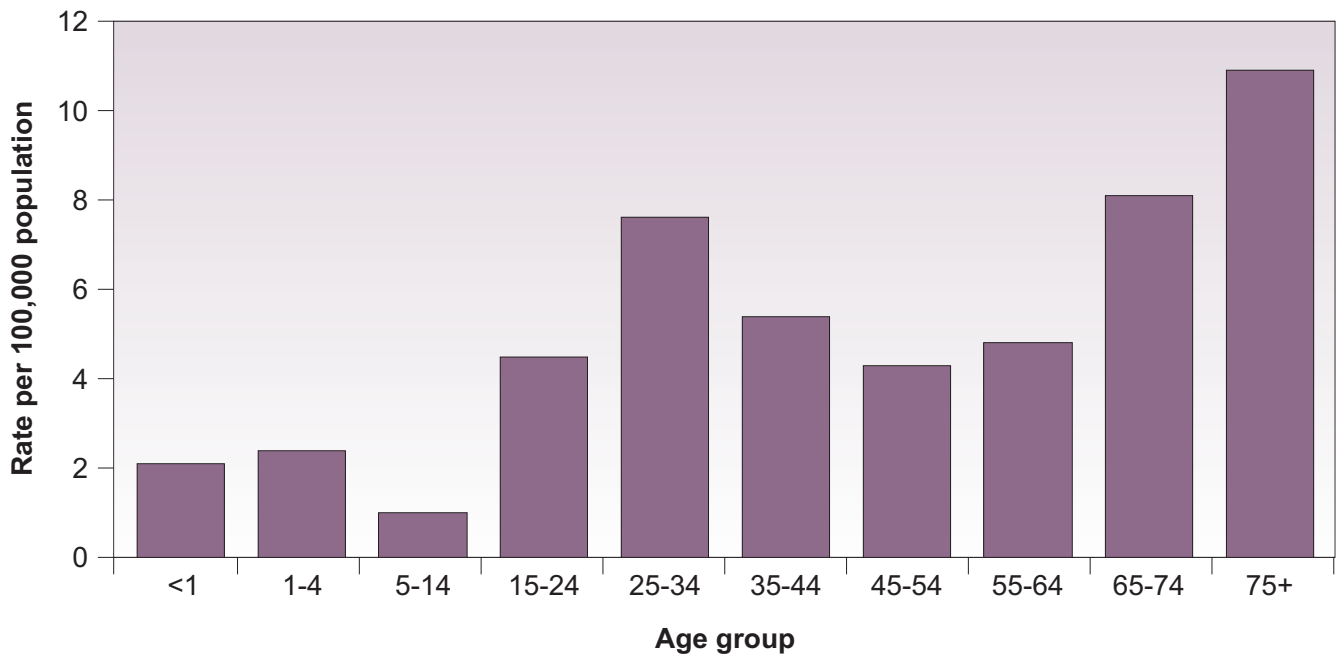
**Figure 4**

**Tuberculosis incidence rate by sex – Canada: 1983–2003**



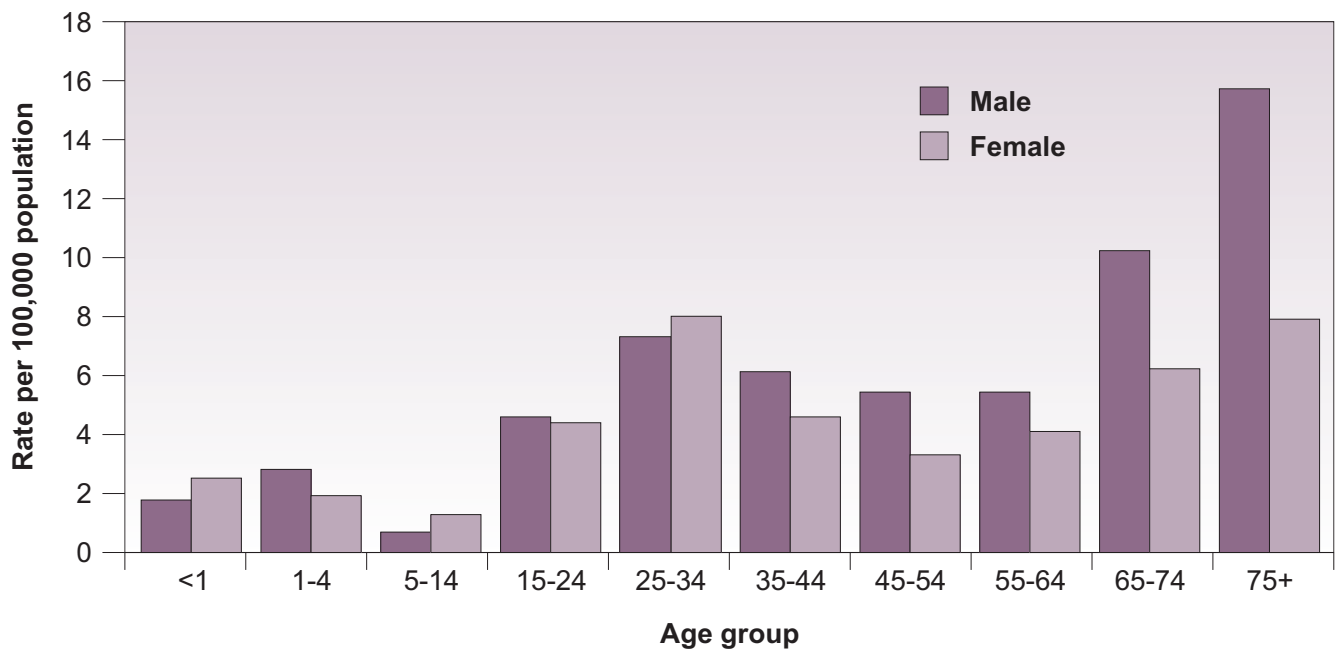
**Figure 5**

**Tuberculosis incidence rate by age group – Canada: 2003**



**Figure 6**

**Tuberculosis incidence rate by age group and sex – Canada: 2003**

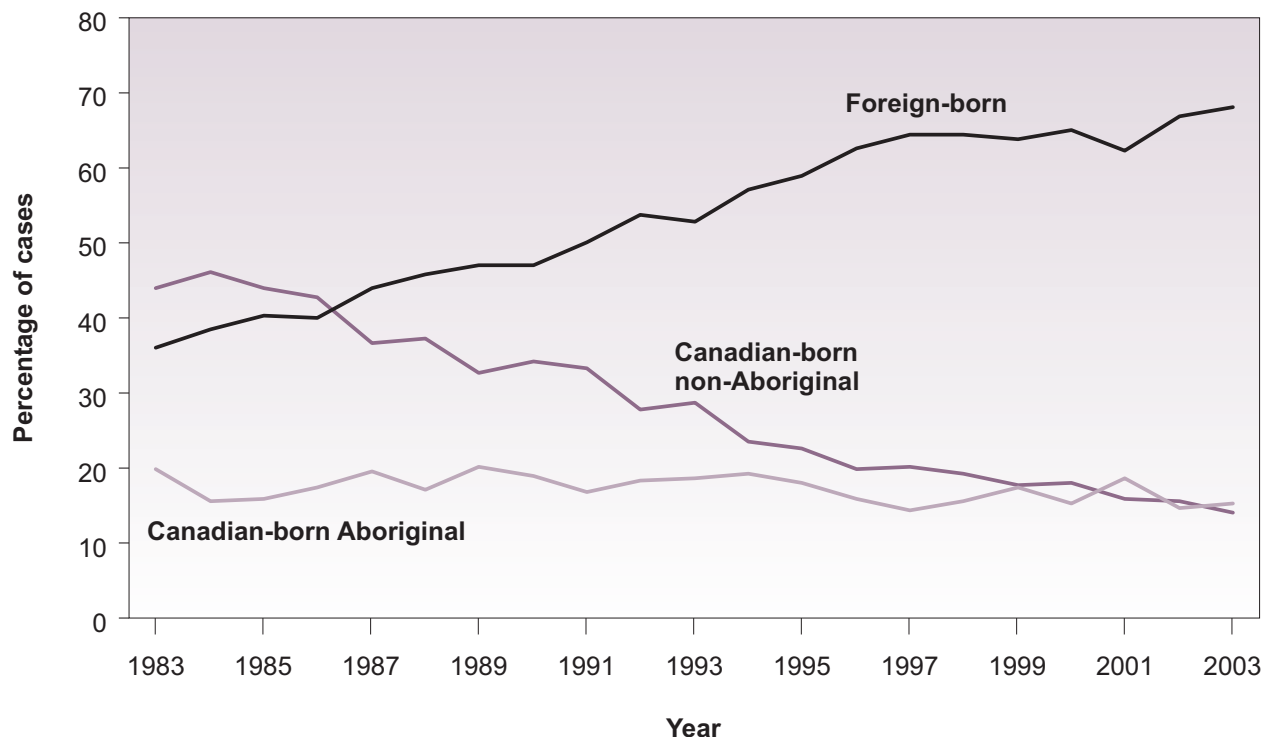


## BIRTHPLACE DISTRIBUTION

Since collection of the data variable “origin” began in 1970 (Canadian-born Aboriginal, Canadian-born non-Aboriginal and foreign-born), there has been a steady increase in the proportion of reported TB cases among the foreign-born population and there has been a relative decline in the proportion of Canadian-born non-Aboriginal cases. The proportion of reported TB cases in Canadian-born Aboriginals has remained relatively constant (Figure 7). In 2003, the proportion of cases that were foreign-born, Canadian-born non-Aboriginal and Canadian born Aboriginal were 68%, 14% and 15%, respectively. Origin was unknown for 3% of the cases.

**Figure 7**

### Percentage of tuberculosis cases by origin – Canada: 1983–2003



The total number of cases in the Canadian-born Aboriginal population has shown a minimal decrease in the past decade, whereas cases in the foreign-born population have remained relatively constant (Figure 8; *Appendix I*, Table 3).

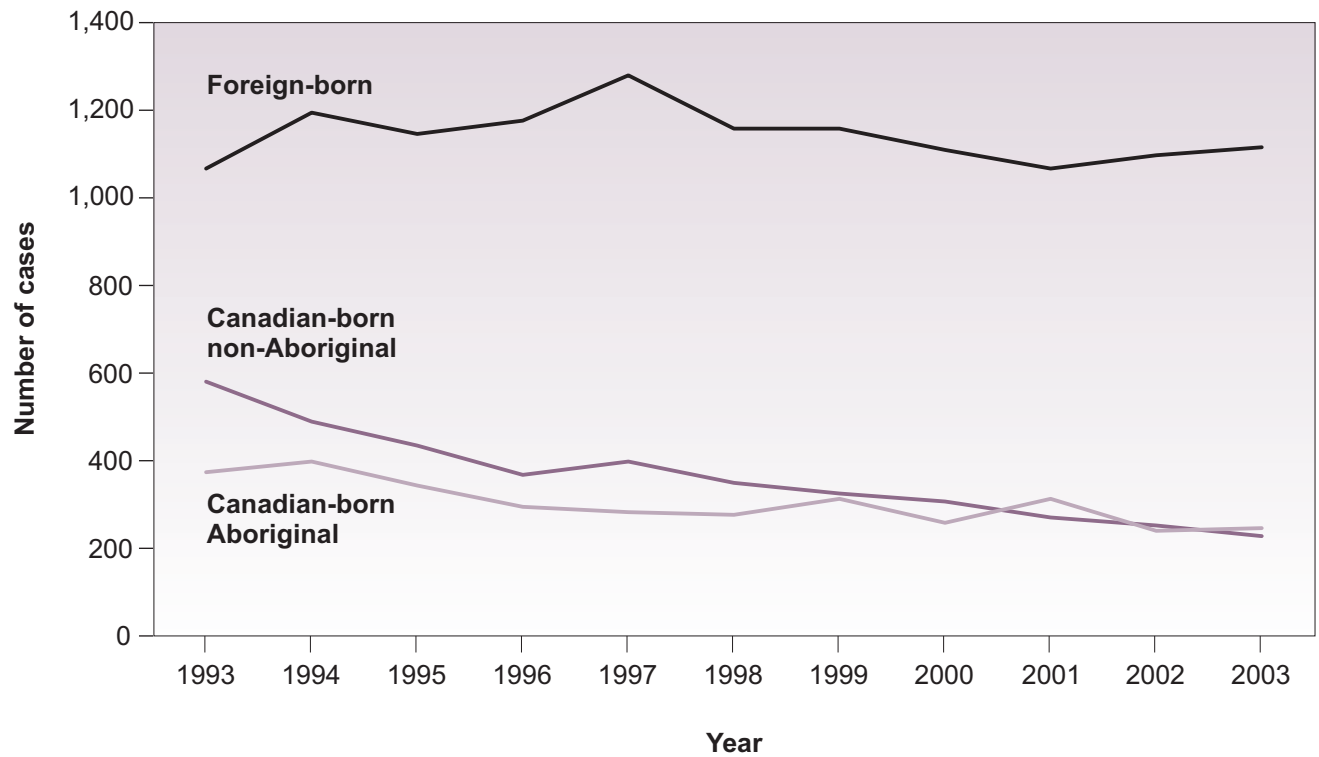
Although the incidence rate was highest in the Canadian-born Aboriginal population (22.3 per 100,000) it has decreased by almost 33% from 33.1 per 100,000 population in 1993 to 22.3 per 100,000 in 2003. For the foreign-born population the incidence rate was 16.9 per 100,000 population, down from 20.3 per 100,000 population in 1993. In the Canadian-born non-Aboriginal population, TB incidence was 1.0 per 100,000. (Figure 9; *Appendix I*, Table 3).

TB cases in foreign-born most often occurred in the 25–34 age group; whereas, Canadian-born non-Aboriginal cases were more often reported in the older demographic (75+). Canadian-born Aboriginal cases were in the younger age groups (Figure 10; *Appendix I*, Table 8).

The geographic distribution of TB cases by origin shows the provinces of British Columbia and Ontario reporting the highest proportions of foreign-born cases (75% and 88%, respectively). In other jurisdictions foreign-born cases accounted for over half of all reported cases (Alberta, 66%; Quebec, 65%). In Saskatchewan Canadian-born Aboriginal peoples comprised 90% of all cases and in the territories (Northwest Territories, Nunavut and Yukon Territory) Canadian-born Aboriginal peoples contributed to 95% of all cases. (Figure 11; Table C; *Appendix I*, Table 6).

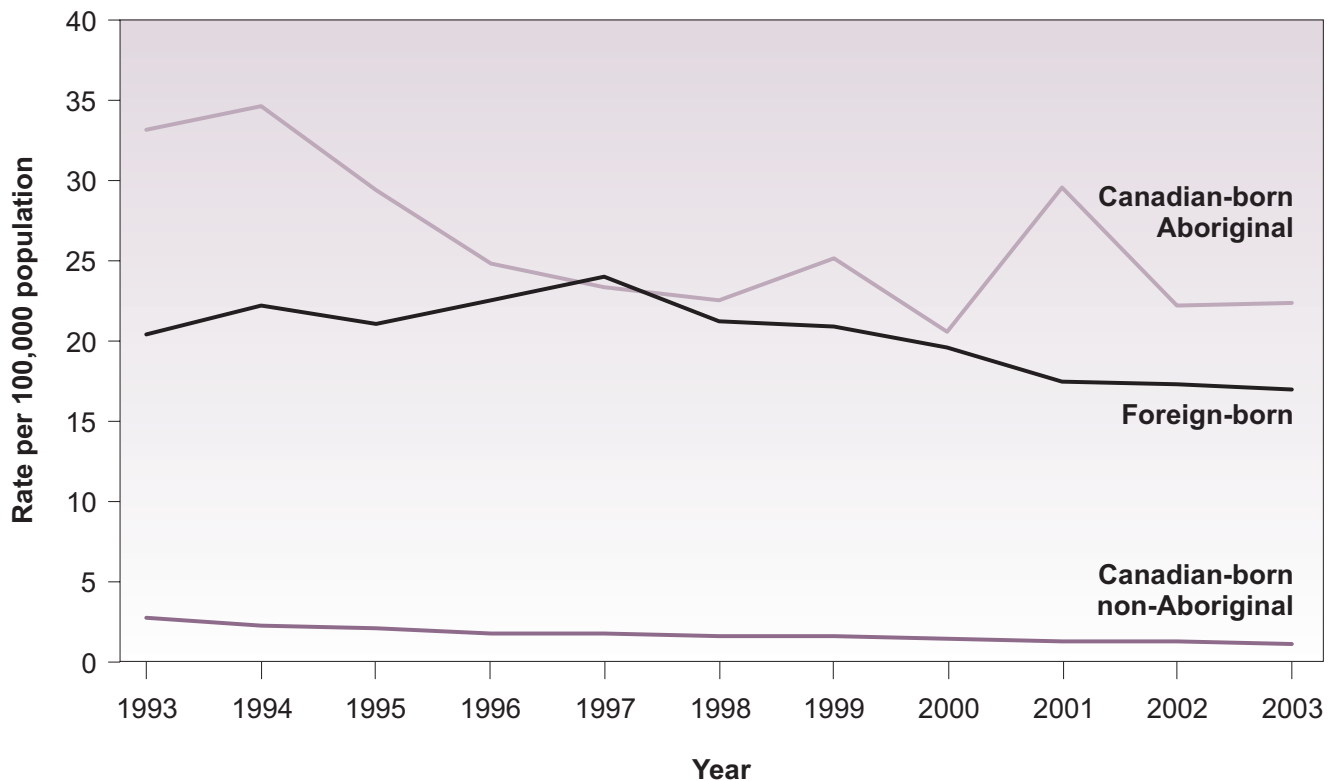
**Figure 8**

**Number of tuberculosis cases by origin – Canada: 1993-2003**



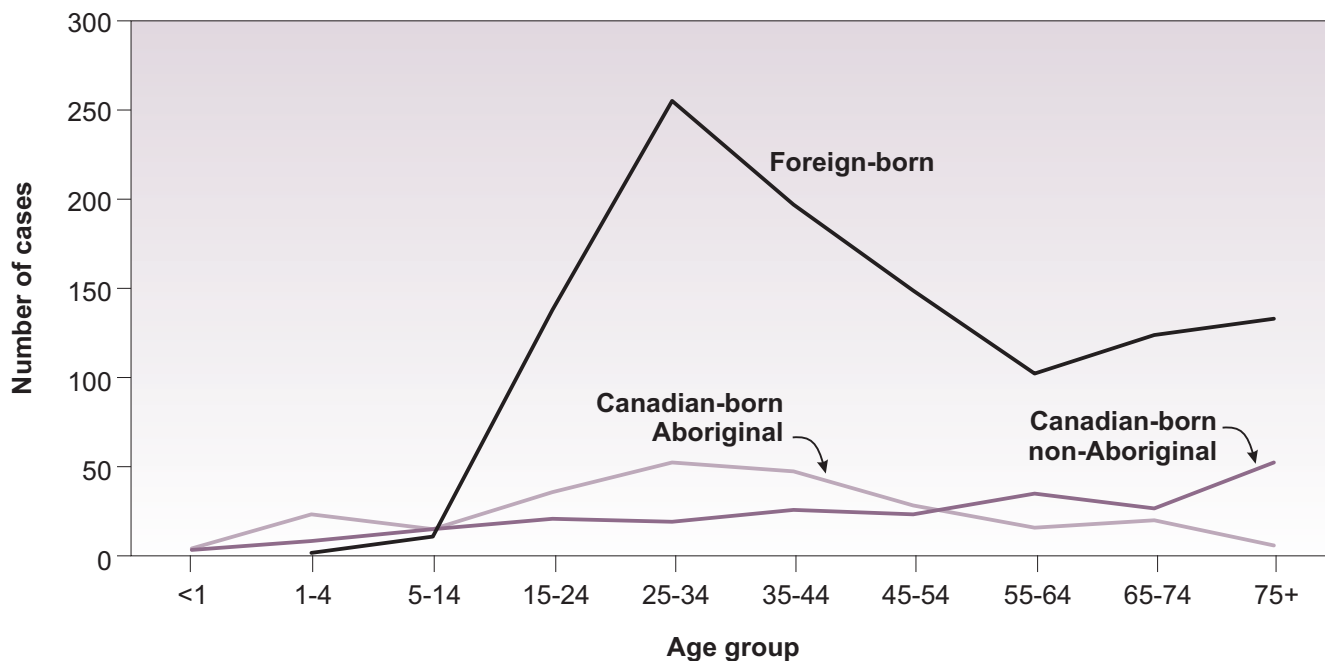
**Figure 9**

**Tuberculosis incidence rate by origin – Canada: 1993-2003**



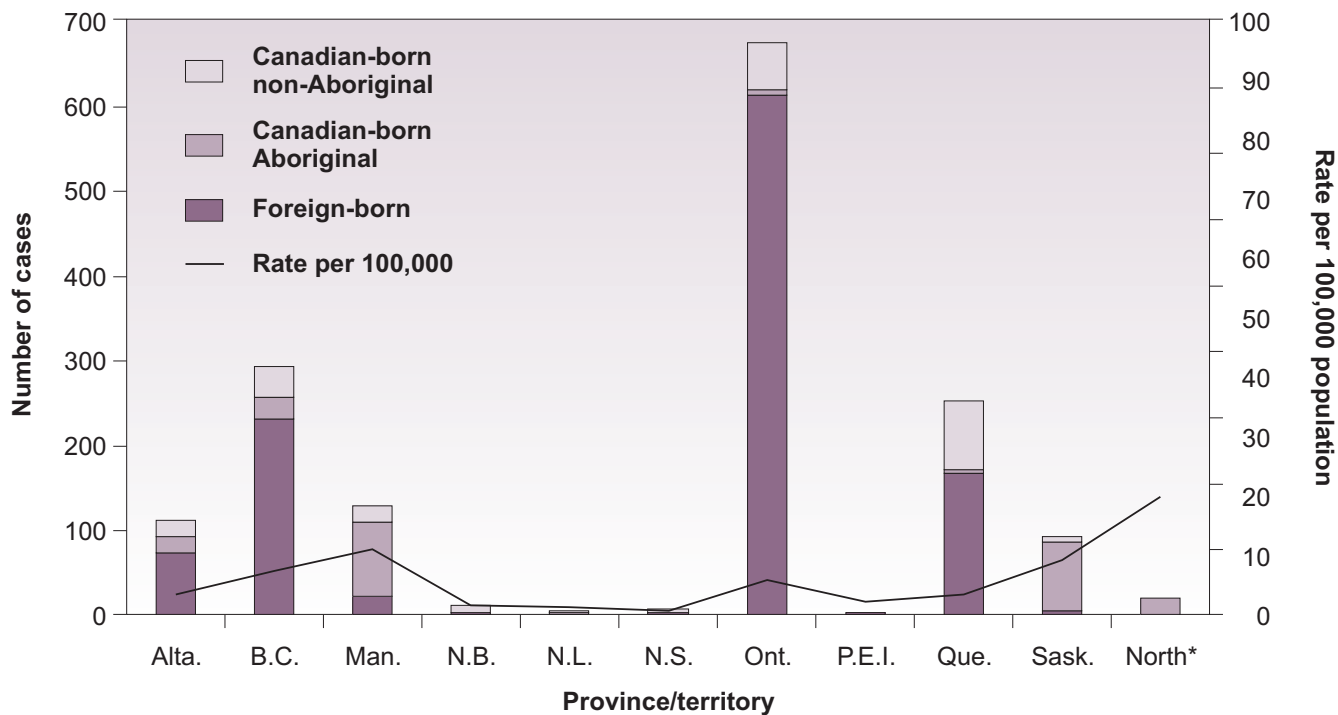
**Figure 10**

**Tuberculosis cases by age group and origin – Canada: 2003**



**Figure 11**

**Origin of TB cases and overall incidence rate – provinces/territories: 2003**



\* Includes Northwest Territories, Nunavut, and Yukon Territory.

**Table C****Percentage of tuberculosis cases in Canada by origin – provinces/territories: 2003**

Reporting province or territory	Canadian-born non-Aboriginal	Canadian-born Aboriginal	Foreign-born	Unknown birthplace
Alberta	16.4	17.3	66.4	0.0
British Columbia	12.1	8.5	75.1	4.3
Manitoba	14.2	69.3	16.5	0.0
New Brunswick	66.7	0.0	16.7	16.7
Newfoundland	50.0	16.7	16.7	16.7
Nova Scotia	66.7	0.0	33.3	0.0
Ontario	7.8	1.2	88.0	3.0
Prince Edward Island	33.3	0.0	66.7	0.0
Quebec	31.8	1.6	65.1	1.6
Saskatchewan	5.5	90.1	4.4	0.0
North*	0.0	95.0	5.0	0.0
<b>CANADA</b>	<b>14.1</b>	<b>15.2</b>	<b>68.2</b>	<b>2.5</b>

\*Includes Northwest Territories, Nunavut and Yukon

Note: Totals may not always equal 100 due to rounding.

By STOP-TB Partnership/WHO TB epidemiological regions, the number of foreign-born cases was highest in individuals originating in the Western Pacific Region (451 cases; 30.7 per 100,000). However, the highest incidence rate (44.7 per 100,000) was among individuals from Africa, High HIV-Prevalence (AFR High). Figure 12 shows the proportion of foreign-born TB by Region, reported in Canada between 1993–2003. Table D shows the foreign-born TB incidence rate in Canada by WHO region of birth compared to the WHO estimated TB incidence rate for that region.

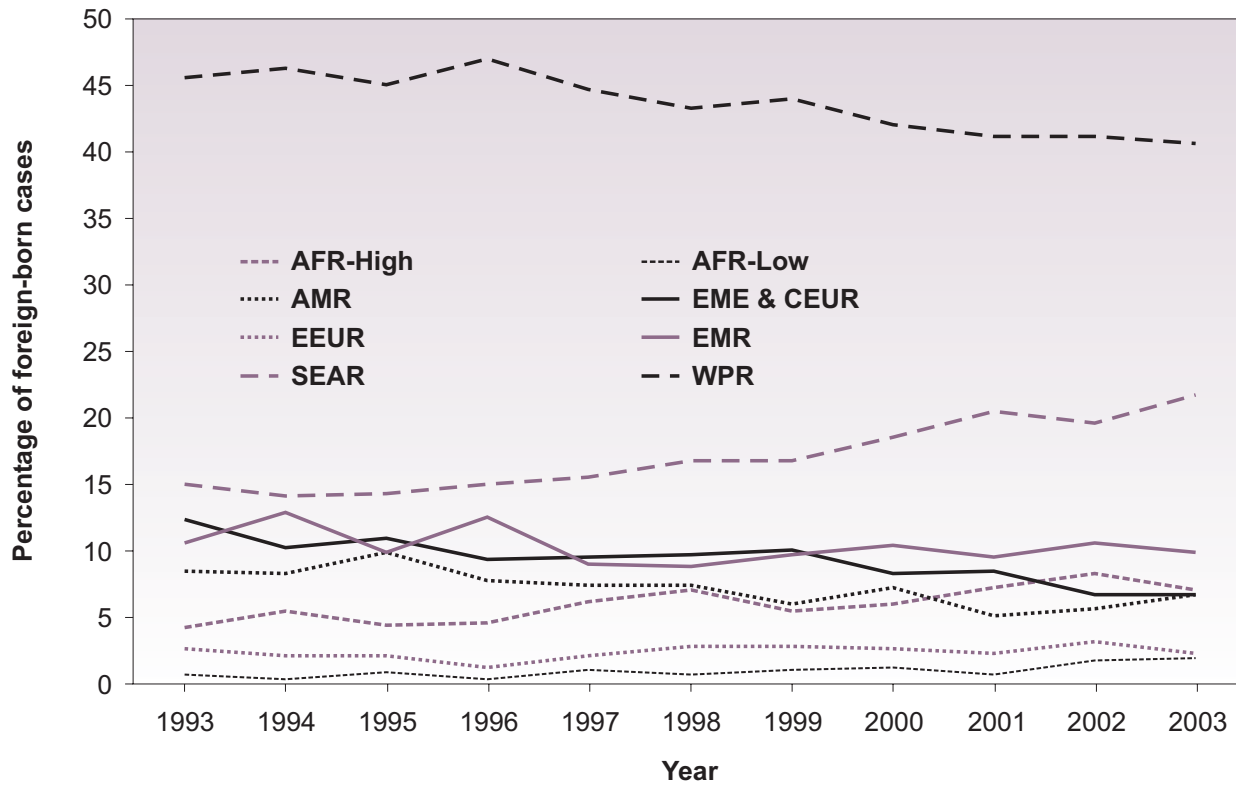
**Table D****Comparison of the reported foreign-born tuberculosis incidence rate in Canada by STOP-TB Partnership/WHO TB epidemiological regions of birth (per 100,000 population) with WHO estimated tuberculosis incidence rate in the respective region<sup>a</sup>**

WHO regions	Reported incidence rate in Canada, 2003	WHO estimate TB incidence rate in the region, 2003 <sup>a</sup>
Africa, High HIV Prevalence (AFR High)	44.7	391
Africa, Low HIV Prevalence (AFR Low)	26.0	197
American region (AMR) - Latin American Countries (LAC)	10.3	65
Eastern Europe (EEUR)	8.6	112
Eastern Mediterranean (EMR)	19.0	121
Established Market Economies (EME) and Central Europe (CEUR)	2.8	21
South-East Asia (SEAR)	41.1	183
Western Pacific (WPR)	30.7	120

<sup>a</sup> Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006–2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

**Figure 12**

**Proportion of foreign-born tuberculosis cases by STOP-TB Partnership/WHO TB epidemiological regions – Canada: 1993-2003**



## DIAGNOSTIC DETAILS

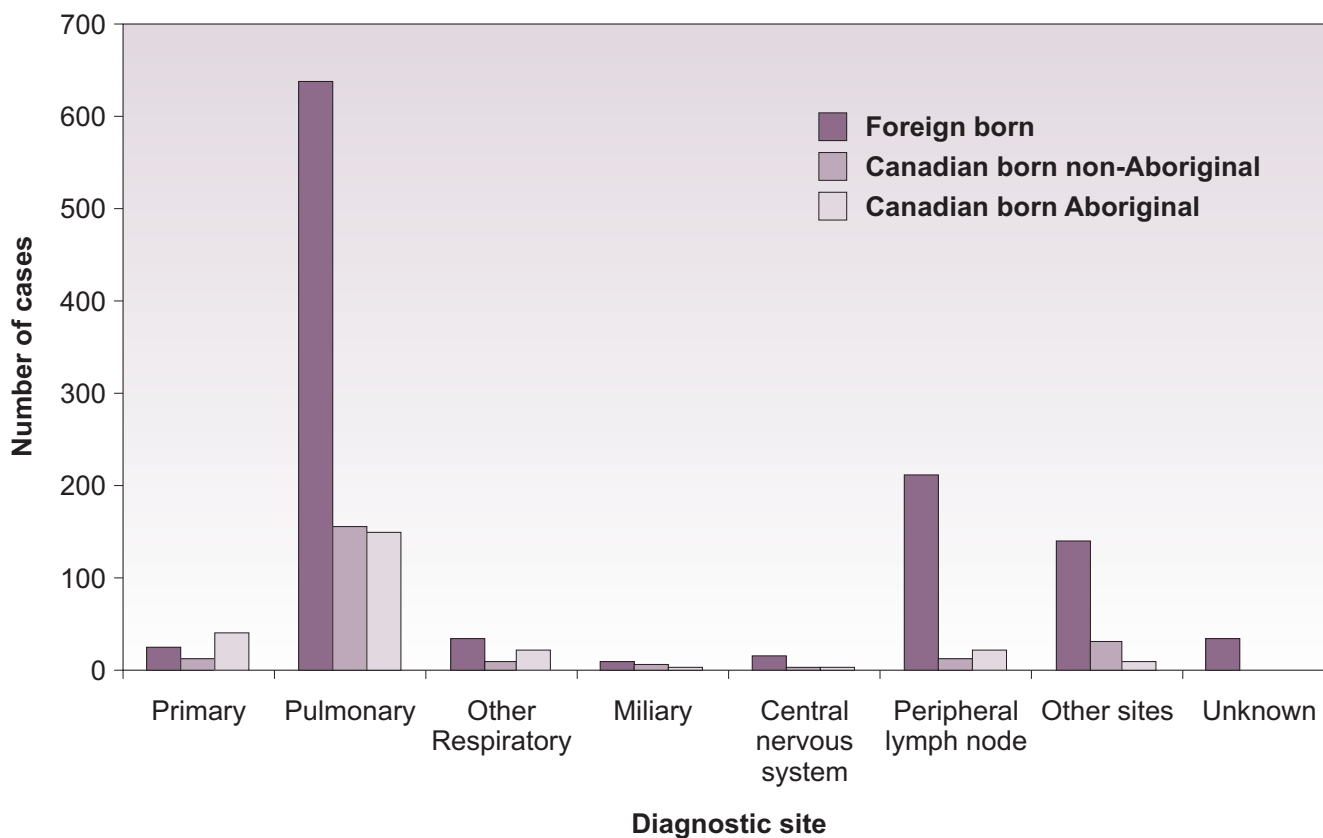
Pulmonary tuberculosis, which includes tuberculosis of the lungs and conducting airways (see Technical Annex for complete definition) was the most frequently reported diagnostic site, accounting for 59% of reported cases in 2003 (*Appendix I*, Table 4), followed by tuberculosis of the peripheral lymph nodes which accounted for 15% of the reported cases. Twelve percent of the cases were classified as “other”, which includes: tuberculosis of the intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal and spleen.

The proportion of TB by diagnostic site showed some variation by origin. Whereas pulmonary TB accounted for 68% of Canadian-born non-Aboriginal cases, this proportion was lower for Canadian-born Aboriginal cases (60%) and lower yet for foreign-born cases (57%). The proportion of cases that had TB of the peripheral lymph nodes was highest for the foreign-born at 19%, and 45% of these cases were in individuals born in the Western Pacific Region (*Appendix I*, Table 10).

There were a total of 79 cases of primary TB. Forty-nine percent of these cases were reported in the Canadian-born Aboriginal population and represented 16% of the total number of Aboriginal cases. TB of the central nervous system (CNS) was rare, accounting for only 25 (2%) of the reported cases. Similarly, miliary/disseminated TB was infrequently diagnosed, representing 20 (1%) of the reported cases (*Figure 13*; *Appendix I*, Table 10). There were 37 cases (2%) where diagnostic site was unknown.

**Figure 13**

**Tuberculosis cases by main diagnostic site and origin – Canada: 2003**

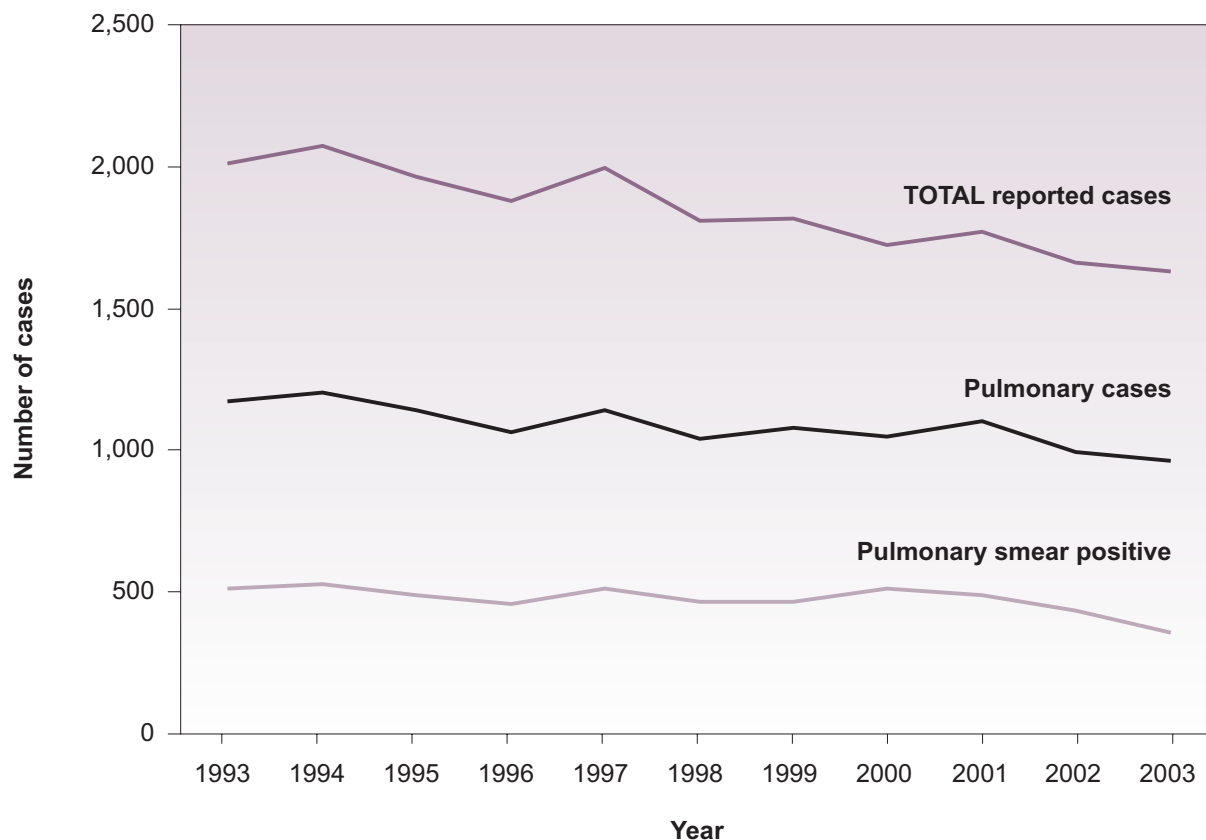




Of the 960 cases of pulmonary TB reported, 37% (359 cases) were smear positive denoting probable infectious pulmonary TB. The proportion of TB cases reported as pulmonary, smear positive was approximately 22% of the total number of all TB cases reported for 2003. Figure 14 shows the relationship since 1993 between the total number of cases reported, the number of cases that were pulmonary and of those the number that were pulmonary smear positive.

**Figure 14**

**Pulmonary sputum smear positive tuberculosis cases – Canada: 1993-2003**



**CASE DETECTION**

Detection of the majority of reported cases was through presentation of symptoms to a medical professional (75%) (*Appendix I, Table 17*).

**DEATHS**

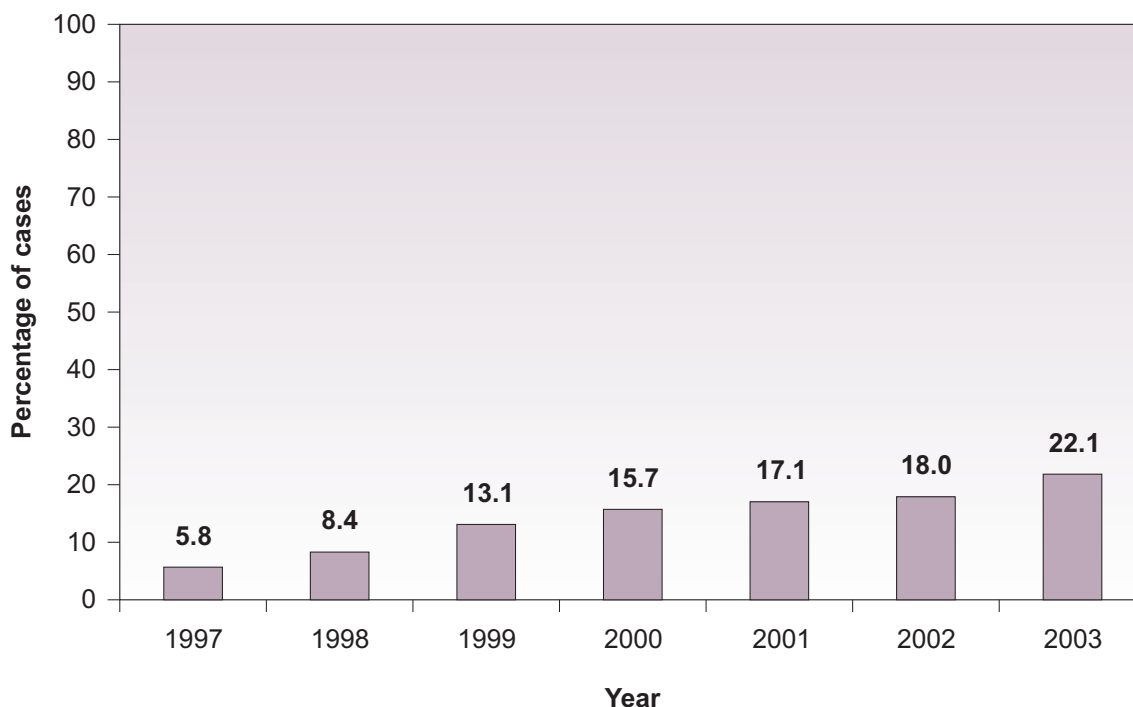
Of the 1,628 cases diagnosed in 2003, 112 died in 2003. TB was reported as the underlying cause of death for 18 cases (16%). TB contributed to death, but was not the underlying cause for 31 cases (28%). Cause of death was not reported for 40 cases. (*Appendix I, Tables 21 and 22*).

## **HIV STATUS**

HIV status was reported for 22% of TB cases (Figure 15; *Appendix I, Table 23*). Of the 359 cases for which HIV status was reported, 61 (17%) were positive. However this proportion is likely biased towards HIV testing in those with co-existing risk factors for HIV.

**Figure 15**

**Percentage of tuberculosis cases for which HIV status is reported - Canada: 1997-2003**



## **RESISTANCE PATTERNS**

Of the 1,628 cases reported in 2003, 1,160 cases were culture positive. Of these, resistance information was available for 1,102 cases: 90% showed no resistance to first-line TB drugs (isoniazid, rifampin, ethambutol, pyrazinamide or streptomycin)<sup>1</sup>, 6% percent were resistant to one drug and the remaining 4% showed patterns of resistance to two or more drugs prescribed. The most common type of mono-resistance was to isoniazid (INH) accounting for 38% of all reported resistance. Multi-drug resistant TB (MDR-TB), defined as resistance to at least INH and rifampin, accounted for 1.1% of results of all drug sensitivity reports (*Appendix I, Table 15*).

Foreign-born cases accounted for the majority of resistance to one or more drugs (85%) and 11 of the 12 MDR-TB cases. Seven percent of the Canadian-born non-Aboriginal cases and five percent of Canadian-born Aboriginal cases were resistant to one or more first line anti-tuberculosis drugs (*Appendix I, Table 15*). Two drug resistant cases were of unknown origin.

<sup>1</sup> As of 2005, streptomycin is considered a second-line TB drug even though it may be used for initial treatment.

## SECTION II – 2002 TREATMENT OUTCOMES

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### NATIONAL TRENDS

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Treatment outcome data for new active and relapsed cases reported in the previous year are submitted to TBPC using a separate reporting form (*Appendix VII – Reporting forms*). For 2002, 1,462 patients had treatment outcome reports submitted, either as an individual case report (631) or for some jurisdictions in aggregate (831 cases).

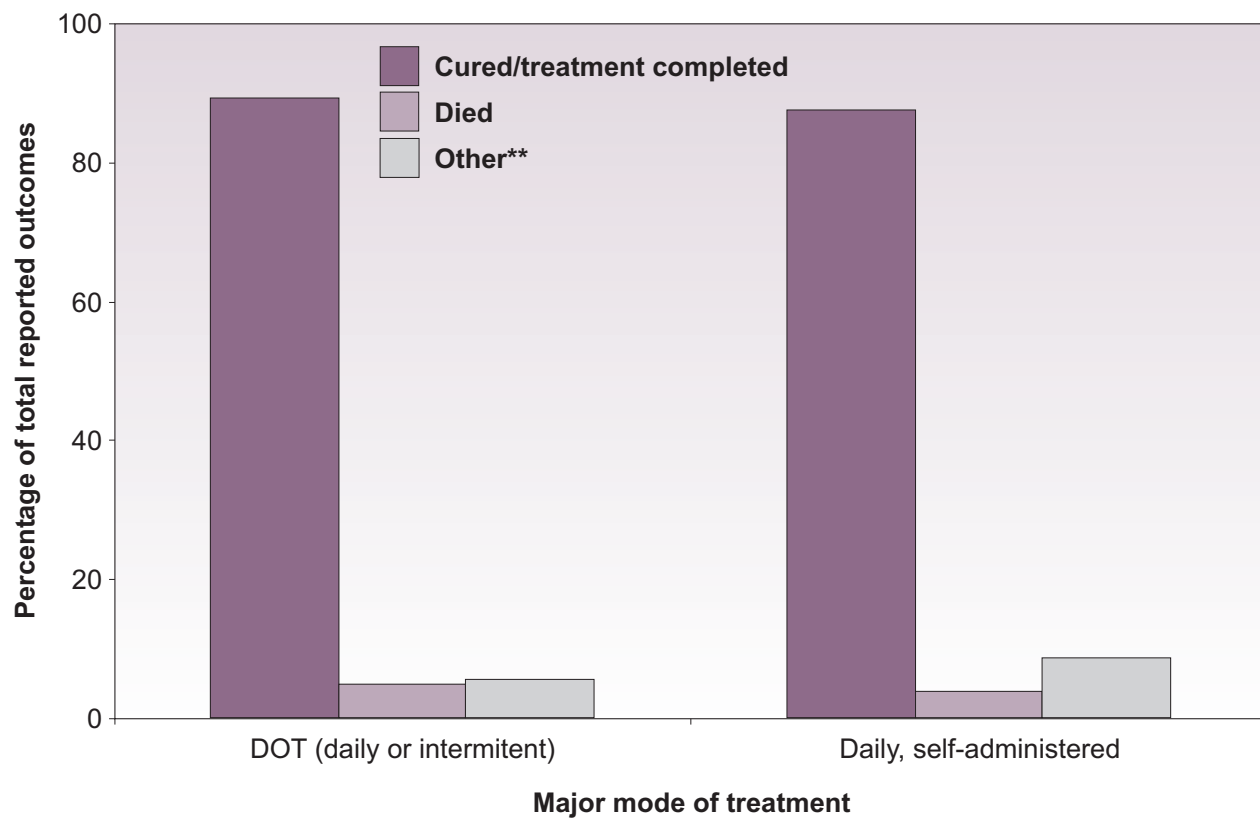
Of the cases for which outcomes were reported, 1,206 cases, (82%), were reported as cured (negative culture at the completion of treatment) or treatment completed without culture at the end of treatment. Of the remaining cases for which treatment outcome was known, 71 (4.9%) died prior to completing treatment.

The majority of individuals were reported to have received treatment as per the *Canadian Tuberculosis Standards, 5<sup>th</sup> edition, 2000*. Drug regimen reporting was complete for 587 cases. Eighty-eight-percent of these cases received three or more anti-tuberculosis drugs (*Appendix I, Table 25*).

For 717 patients for whom mode of treatment was reported, 50% were on Directly Observed Therapy (DOT). An additional 47% self-administered their medications. For 3% of the cases, mode of treatment was not recorded. Of those cases on DOT, 89% were successfully treated versus 88% who self-administered their therapy (Figure 16).

**Figure 16**

**Treatment outcome status of tuberculosis case by major mode of treatment – 2002\***



\* Ontario not included as results were not available

\*\* Other – absconded, transferred, treatment ongoing, unknown

## SECTION III – MEASURING PROGRESS TOWARDS NATIONAL TARGETS

In 1997, the National Consensus Conference on Tuberculosis recommended that the Canadian goal of TB prevention and control should be to reduce the annual number of TB cases (new and relapsed) by five percent annually. The overall average rate of decline of such cases from 1997 to 2003 was 2.5% (see Table E).

**Table E**

### Average rate of decline of new and relapsed TB cases in Canada: 1997-2003

Reporting year	Number of new and relapsed TB cases	Annual percent change* (%)	3-year average rate of decline	Overall average rate of decline
1997	1,995			
1998	1,809	9.3%		
1999	1,820	-0.6%	4.7%	
2000	1,723	5.3%	0.7%	
2001	1,770	-2.7%	2.8%	
2002	1,670	5.6%	1.8%	
2003	1,628	2.5%		
				2.5%

\*Negative number indicates a percent increase in the annual number of cases from the previous reporting year.

In 2006, the Canadian Tuberculosis Committee<sup>2</sup> reviewed this national goal in view of the targets set in the *Global Plan to Stop TB 2006-2015*<sup>3</sup> to reduce the global burden of TB disease by 50% relative to 1990 levels by 2015. The Committee recommended a target Canadian tuberculosis (new and relapsed) incidence rate of 3.6 per 100,000 population (or less) by 2015. This represents one half of the disease burden in Canada as compared to the 1990 incidence rate. Achieving this goal will require a three per cent annual reduction in the incidence rate between 2005 and 2015.

The *Canadian Tuberculosis Standards, 5<sup>th</sup> edition, 2000*, has set program performance standards for the ideal anti-tuberculosis drug regimen and its delivery. These standards require that at a minimum treatment:

- Convert sputum cultures to negative within 5-6 months of treatment being started;
- Achieve relapse rate of less than 3% within 2 years of cessation of treatment; (only for cases previously diagnosed in Canada);

<sup>2</sup> For information on the membership and terms of reference for the Canadian Tuberculosis Committee please see <http://www.phac-aspc.gc.ca/tbpc-latb/ctc-ccla/index.html>.

<sup>3</sup> Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006-2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

- Result in drug resistance rates of no more than 2-3%;
- Be cost-effective since directly observed therapy is the optimal mode of drug delivery; and
- Be tolerated by the patient.

The CTBRS contains data that can approximate measuring progress towards achieving some of these standards for the entire cohort of TB cases reported in Canada. The result of the last sputum culture is documented for 90% (2,140 of 2,355) of pulmonary cases reported to the CTBRS over the past five years (1998-2002). Of these, 9% remained culture positive at the time of the treatment outcome report (i.e., one year following diagnosis). A large proportion was reported as culture negative (55%). For the remaining cases, a final culture was not done or was unknown (29% and 7%, respectively).

The rate of relapse within two years of cessation of treatment, for cases previously diagnosed in Canada was extremely low, averaging less than one percent for the last five years of reporting (1998 – 2002). The rate of secondary or acquired drug resistance was also very low, averaging two percent from 1998 through to 2002.

## SECTION IV – INTERNATIONAL REPORTING

The Public Health Agency of Canada provides data to the World Health Organization (WHO) on an annual basis. This reporting focuses on pulmonary smear positive cases and the treatment outcome of these cases by major mode of treatment (e.g., DOTS or non-DOTS). The WHO global targets for TB include 70% detection of all pulmonary smear positive cases and of these cases an 85% cure or treatment completion rate. Table F provides treatment outcome status for laboratory confirmed pulmonary cases in Canada between 1997 and 2002, for which outcome data were available. Due to incomplete treatment outcome reporting, numbers presented in Table F may differ from the *Global Tuberculosis Control, WHO Report, 2005*, that reports on treatment outcome data for 2002 cases.

**Table F**

### Treatment outcome of laboratory confirmed pulmonary cases, Canada: 1998-2002

Total outcome	1998		1999		2000		2001		2002	
	DOTS	Non-DOTS	DOTS	Non-DOTS	DOTS	Non-DOTS	DOTS	Non-DOTS	DOTS	Non-DOTS
Total cohort registered for treatment	211	258	238	165	258	155	281	193	215	139
Cured	79	72	78	70	121	74	86	58	85	9
Completed	102	99	139	54	91	56	148	93	106	105
Cured or completed treatment (% of total)	<b>181</b> <b>(86%)</b>	<b>171</b> <b>(66%)</b>	<b>217</b> <b>(91%)</b>	<b>124</b> <b>(75%)</b>	<b>212</b> <b>(82%)</b>	<b>130</b> <b>(84%)</b>	<b>234</b> <b>(83%)</b>	<b>151</b> <b>(78%)</b>	<b>191</b> <b>(89%)</b>	<b>114</b> <b>(82%)</b>
Died	8	30	7	26	23	10	27	25	11	13
Failed	0	0	0	0	2	0	0	0	0	0
Defaulted	4	8	7	6	8	4	13	6	7	8
Transferred out	3	23	2	5	1	8	3	10	2	4
Treatment ongoing	3	3	4	3	8	2	3	1	1	0
Unknown	12	23	1	1	4	1	0	0	3	0

## CONCLUSION

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The total number of reported cases of TB in Canada has shown continual decrease over the past decade. However, this decrease is mostly a reflection of a decreasing number of cases in the Canadian-born non-Aboriginal population. The number of cases in the Canadian-born Aboriginal population has shown a minimal decrease, whereas cases in the foreign-born population have remained relatively constant.

Pulmonary tuberculosis makes up the majority of the cases reported in Canada (59%). Of these, 37% were smear positive, denoting the most infectious form of TB.

Determining the Canadian incidence rate of TB-HIV co-infection from this surveillance system is not yet possible. HIV status was reported for only 22.1% of cases, of which 17% were HIV sero-positive. In the unlikely event that these were the only co-infected cases, the overall co-infection rate was 4%. Corbett et al<sup>4</sup> have estimated that 10-19% of adult TB cases in Canada are attributable to HIV. The World Health Organization has estimated HIV prevalence in adult incident TB cases in Canada in 2004 to be 8.7%<sup>5</sup>. There are a number of important personal and public health reasons for screening for HIV in patients with TB and their contacts, as well as screening and prevention of TB in patients with HIV.<sup>6</sup> Screening for HIV in TB cases and reporting of the results are essential activities for prevention and control of future TB cases in Canada.

Drug resistance has not yet emerged as a significant problem in Canada. Cases of MDR-TB represent 1% of the reported cases of drug resistance to this reporting system.

For the treatment outcome data received, the majority of TB cases were reported as cured or completed treatment.

In keeping with the targets set in the *Global Plan to Stop TB 2006-2015*<sup>7</sup> to reduce the global burden of TB disease by 50%, the Canadian tuberculosis incidence rate would have to be reduced to 3.6 per 100,000 by 2015. Achieving this goal will require a three per cent annual reduction in the incidence rate between 2005 and 2015.

As the epidemiology of TB in Canada and the world evolves, the CTBRS and the annual report, *Tuberculosis in Canada*, will continue to undergo improvements in the quality and nature of the data reported.

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<sup>4</sup> Corbett EL, Watt CJ, Walker N, Maher D, Williams BG, Raviglione MC, Dye C. The Growing Burden of Tuberculosis: Global Trends and Interactions With the HIV Epidemic. *Arch Intern Med.* 2003; 163: 1009-1021.

<sup>5</sup> Global tuberculosis control: surveillance, planning, financing. WHO report 2006. Geneva, World Health Organization (WHO/HTM/TB/2006.362).

<sup>6</sup> Long R, Houston S, Hershfield E, for the Canadian Tuberculosis Committee of Health Canada. Recommendations for screening and prevention of tuberculosis in patients with HIV and for screening for HIV in patients with tuberculosis and their contacts. *CMAJ* 2003; 169 (8): 789-791.

<sup>7</sup> Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006-2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).



# APPENDIX I

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**Table 1A**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1993-2003**

Year of diagnosis	Province/territory													Nvt.
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	
1993	Cases	62	5	18	14	352	770	108	153	156	337	3	35	-
	Rate	7.0	3.8	1.9	1.9	4.9	7.2	9.7	15.2	5.8	9.4	9.9	55.2	-
1994	Cases	2,074	14	0	12	361	831	116	147	178	324	10	65	-
	Rate	7.2	2.4	0	1.3	2.1	7.7	10.3	14.6	6.6	8.8	33.7	100.0	-
1995	Cases	1,964	11	1	13	380	800	108	155	126	308	2	52	-
	Rate	6.7	1.9	0.7	1.4	5.3	7.3	9.6	15.3	4.6	8.2	6.6	78.3	-
1996	Cases	1,877	24	3	15	332	780	97	113	140	316	6	36	-
	Rate	6.3	4.3	2.2	1.6	4.6	7.0	8.6	11.1	5.0	8.2	19.1	53.4	-
1997	Cases	1,995	15	5	7	360	780	96	121	166	405	2	31	-
	Rate	6.7	2.7	3.7	0.8	4.9	6.9	8.4	11.9	5.9	10.3	6.3	45.9	-
1998	Cases	1,809	8	2	18	289	742	116	98	158	329	2	38	-
	Rate	6.0	1.5	1.5	1.9	4.0	6.5	10.2	9.6	5.4	8.3	6.4	56.6	-
1999	Cases	1,820	12	2	15	314	698	132	116	149	328	1	23	15
	Rate	6.0	2.2	1.5	1.6	4.3	6.1	11.6	11.4	5.0	8.2	3.2	56.6	55.9
2000	Cases	1,723	10	2	3	318	700	98	104	133	285	3	10	47
	Rate	5.6	1.9	1.5	0.3	4.3	6.0	8.5	10.3	4.4	7.1	9.9	24.7	170.9
2001	Cases	1,770	19	3	8	259	699	115	114	116	379	0	8	40
	Rate	5.7	3.6	2.2	0.9	3.5	5.9	10.0	11.4	3.8	9.3	-	19.6	142.2
2002	Cases	1,670	9	1	9	288	716	98	89	128	290	0	4	27
	Rate	5.3	1.7	0.7	1.0	3.8	5.9	8.5	8.9	4.1	7.0	-	9.6	93.9
2003	Cases	1,628	6	3	6	255	693	127	91	110	305	1	12	7
	Rate	5.1	1.2	2.2	0.6	3.4	5.7	10.9	9.2	3.5	7.3	3.3	28.4	24.0

Table 1B

## Reported new active tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1993–2003

Year of diagnosis	CANADA	Province/territory										Nvt.		
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		Y.T.	N.W.T.
1993	Cases	59	5	15	12	311	653	95	145	143	304	3	28	-
	Rate	10.2	3.8	1.6	1.6	4.3	6.1	8.5	14.4	5.4	8.5	9.9	44.2	-
1994	Cases	12	0	12	15	306	723	107	141	160	294	9	59	-
	Rate	2.1	0.0	1.3	2.0	4.3	6.7	9.5	14.0	5.9	8.0	30.3	90.8	-
1995	Cases	9	1	10	7	348	668	96	143	116	290	2	46	-
	Rate	1.6	0.7	1.1	0.9	4.8	6.1	8.5	14.1	4.2	7.7	6.6	69.3	-
1996	Cases	21	3	11	9	294	689	84	109	129	287	4	31	-
	Rate	3.8	2.2	1.2	1.2	4.1	6.2	7.4	10.7	4.6	7.4	12.7	46.0	-
1997	Cases	13	4	5	6	323	687	86	110	150	360	2	24	-
	Rate	2.4	2.9	0.5	0.8	4.4	6.1	7.6	10.8	5.3	9.1	6.3	35.5	-
1998	Cases	7	2	16	7	262	650	104	91	146	306	2	32	-
	Rate	1.3	1.5	1.7	0.9	3.6	5.7	9.1	8.9	5.0	7.7	6.4	47.6	-
1999	Cases	11	2	12	13	278	595	123	110	141	304	1	17	15
	Rate	2.1	1.5	1.3	1.7	3.8	5.2	10.8	10.8	4.8	7.6	3.2	41.8	55.9
2000	Cases	10	2	3	8	297	599	88	100	120	262	2	7	40
	Rate	1.9	1.5	0.3	1.1	4.0	5.1	7.7	9.9	4.0	6.5	6.6	17.3	145.5
2001	Cases	17	2	5	10	233	610	108	104	105	335	0	8	34
	Rate	3.3	1.5	0.5	1.3	3.1	5.1	9.4	10.4	3.4	8.2	0.0	19.6	120.9
2002	Cases	6	1	7	10	252	632	92	83	121	254	0	4	22
	Rate	1.2	0.7	0.7	1.3	3.4	5.2	8.0	8.3	3.9	6.2	0.0	9.6	76.6
2003	Cases	3	1	5	11	240	613	118	82	104	275	1	9	7
	Rate	0.6	0.7	0.5	1.5	3.2	5.0	10.2	8.2	3.3	6.6	3.3	21.3	24.0

NB: Cases for which activity status is unknown are included in the total (Table 1A).

**Table 1C**

**Reported relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1993-2003**

Year of diagnosis	Province/territory													
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
1993	Cases	3	0	3	2	41	115	13	8	13	33	0	7	-
	Rate	0.5	0.0	0.3	0.3	0.6	1.1	1.2	0.8	0.5	0.9	0.0	11.0	-
1994	Cases	2	0	0	1	55	100	9	6	18	30	1	6	-
	Rate	0.3	0.0	0.0	0.1	0.8	0.9	0.8	0.6	0.7	0.8	3.4	9.2	-
1995	Cases	2	0	3	1	28	102	12	12	10	18	0	6	-
	Rate	0.4	0.0	0.3	0.1	0.4	0.9	1.1	1.2	0.4	0.5	0.0	9.0	-
1996	Cases	3	0	3	5	36	72	9	4	11	29	1	5	-
	Rate	0.5	0.0	0.3	0.7	0.5	0.6	0.8	0.4	0.4	0.7	3.2	7.4	-
1997	Cases	2	1	2	1	34	73	10	11	16	43	0	7	-
	Rate	0.4	0.7	0.2	0.1	0.5	0.7	0.9	1.1	0.6	1.1	0.0	10.4	-
1998	Cases	1	0	2	2	22	66	12	7	12	23	0	6	-
	Rate	0.5	0.0	0.2	0.3	0.3	0.6	1.1	0.7	0.4	0.6	0.0	8.9	-
1999	Cases	1	0	2	1	33	69	9	6	8	23	0	6	0
	Rate	0.5	0.0	0.2	0.1	0.5	0.6	0.8	0.6	0.3	0.6	0.0	14.8	0.0
2000	Cases	0	0	0	1	18	70	10	4	13	22	1	3	6
	Rate	0.5	0.0	0.0	0.1	0.2	0.6	0.9	0.4	0.4	0.5	3.3	7.4	21.8
2001	Cases	2	1	3	0	16	61	5	10	11	40	0	0	6
	Rate	0.5	0.7	0.3	0.0	0.2	0.5	0.4	1.0	0.4	1.0	0.0	0.0	21.3
2002	Cases	3	0	2	1	19	56	6	6	7	34	0	0	5
	Rate	0.4	0.0	0.2	0.1	0.3	0.5	0.5	0.6	0.2	0.8	0.0	0.0	17.4
2003	Cases	3	1	1	1	15	35	9	9	6	22	0	3	0
	Rate	0.3	0.7	0.1	0.1	0.2	0.3	0.8	0.9	0.2	0.5	0.0	7.1	0.0

NB: Cases for which activity status is unknown are included in the total (Table 1A).

Table 2A

## Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada: 1993–2003

Year of diagnosis	TOTAL	Age group											Age unknown
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +		
1993	Cases	26	69	108	234	386	270	210	215	257	237	1	
	Rate	6.6	4.3	2.8	5.9	7.8	5.8	6.3	8.8	12.8	17.4	-	
1994	Cases	20	72	98	274	411	261	224	212	271	231	0	
	Rate	5.2	4.4	2.5	6.9	8.4	5.5	6.4	8.6	13.3	16.6	-	
1995	Cases	26	66	76	213	331	317	203	210	249	223	50	
	Rate	6.8	4.1	1.9	5.3	6.9	6.5	5.6	8.4	12.0	15.5	-	
1996	Cases	14	66	63	216	360	304	191	196	252	215	0	
	Rate	3.7	4.2	1.6	5.4	7.6	6.1	5.0	7.7	12.1	14.4	-	
1997	Cases	8	50	57	221	391	292	216	232	248	280	0	
	Rate	2.2	3.2	1.4	5.5	8.4	5.7	5.5	9.0	11.8	18.1	-	
1998	Cases	20	60	72	188	314	306	183	175	233	258	0	
	Rate	5.8	3.9	1.8	4.6	7.0	5.9	4.5	6.6	11.0	16.2	-	
1999	Cases	31	55	62	201	335	261	189	177	240	269	0	
	Rate	9.1	3.7	1.5	4.9	7.6	5.0	4.5	6.5	11.2	16.3	-	
2000	Cases	10	55	41	210	314	280	208	156	205	244	0	
	Rate	5.6	3.8	1.0	5.0	7.2	5.3	4.8	5.6	9.6	14.3	-	
2001	Cases	9	35	70	170	332	288	209	181	221	255	0	
	Rate	5.7	2.5	1.7	4.0	7.7	5.4	4.6	6.2	10.2	14.5	-	
2002	Cases	10	41	44	207	311	264	204	163	201	219	6	
	Rate	5.3	2.9	1.1	4.8	7.2	5.0	4.4	5.3	9.2	12.0	-	
2003	Cases	7	33	41	195	333	279	204	155	177	204	0	
	Rate	5.1	2.4	1.0	4.5	7.6	5.4	4.3	4.8	8.1	10.9	-	

**Table 2B**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada: 1993-2003**

Year of diagnosis	TOTAL	Age group											Age unknown
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +		
1993	Cases	13	35	62	124	207	154	130	132	144	133	1	
	Rate	8.0	4.2	3.1	6.1	8.3	6.6	7.8	10.9	15.9	26.1	-	
1994	Cases	9	36	52	140	203	151	133	117	150	130	0	
	Rate	7.8	4.3	2.6	6.9	8.2	6.3	7.6	9.6	16.2	25.0	-	
1995	Cases	8	31	35	99	172	197	120	120	145	108	30	
	Rate	7.3	3.8	1.7	4.9	7.1	8.1	6.6	9.7	15.4	20.1	-	
1996	Cases	9	30	35	108	186	161	105	105	144	131	0	
	Rate	6.9	3.7	1.7	5.3	7.8	6.5	5.6	8.4	15.0	23.6	-	
1997	Cases	6	27	25	94	195	161	118	131	140	165	0	
	Rate	7.2	3.4	1.2	4.6	8.3	6.3	6.0	10.3	14.4	28.6	-	
1998	Cases	16	31	38	78	162	163	100	105	125	147	0	
	Rate	6.5	4.0	1.8	3.7	7.1	6.3	4.9	8.0	12.6	24.6	-	
1999	Cases	19	28	25	98	173	145	114	99	141	157	0	
	Rate	6.6	3.7	1.2	4.6	7.8	5.5	5.4	7.4	14.1	25.4	-	
2000	Cases	8	28	21	101	167	150	115	87	102	145	0	
	Rate	6.1	3.8	1.0	4.7	7.6	5.7	5.3	6.3	10.1	22.6	-	
2001	Cases	6	15	45	90	155	168	124	110	128	143	0	
	Rate	6.4	2.1	2.1	4.2	7.1	6.3	5.6	7.6	12.6	21.0	-	
2002	Cases	5	18	15	94	164	143	107	89	117	112	0	
	Rate	5.6	2.5	0.7	4.3	7.5	5.4	4.7	5.8	11.4	16.2	-	
2003	Cases	3	20	15	102	161	161	126	87	106	113	0	
	Rate	5.7	2.8	0.7	4.6	7.3	6.1	5.4	5.4	10.2	15.7	-	

**Table 2C**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada: 1993-2003**

Year of diagnosis	TOTAL	Age group											Age unknown
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +		
1993	Cases	13	34	46	110	179	116	80	83	113	104	0	
	Rate	6.8	4.3	2.4	5.7	7.3	5.0	4.8	6.7	10.3	12.2	-	
1994	Cases	11	36	46	134	208	110	91	95	121	101	0	
	Rate	5.9	4.5	2.4	6.9	8.6	4.6	5.2	7.6	10.8	11.5	-	
1995	Cases	18	35	41	114	159	120	83	90	104	115	30	
	Rate	6.1	4.5	2.1	5.8	6.7	4.9	4.6	7.1	9.3	12.7	-	
1996	Cases	5	36	28	109	174	143	86	91	108	84	0	
	Rate	5.8	4.7	1.4	5.6	7.4	5.7	4.5	7.1	9.6	9.0	-	
1997	Cases	2	23	32	127	196	131	98	101	108	115	0	
	Rate	6.2	3.0	1.6	6.4	8.5	5.1	5.0	7.7	9.5	11.9	-	
1998	Cases	4	29	110	152	143	83	34	70	108	111	0	
	Rate	5.5	3.9	5.5	7.7	6.4	3.2	1.7	5.2	9.5	11.1	-	
1999	Cases	12	27	37	103	162	116	75	78	99	112	0	
	Rate	5.3	3.7	1.9	5.1	7.4	4.4	3.6	5.6	8.7	10.8	-	
2000	Cases	2	27	20	109	147	130	93	69	103	99	0	
	Rate	5.2	3.8	1.0	5.4	6.9	4.9	4.2	4.8	9.1	9.3	-	
2001	Cases	3	20	25	80	177	120	85	71	92	112	0	
	Rate	5.0	2.9	1.3	3.9	8.3	4.6	3.8	4.8	8.1	10.2	-	
2002	Cases	5	23	29	113	147	121	97	74	84	107	0	
	Rate	5.1	3.4	1.5	5.4	6.9	4.6	4.2	4.7	7.3	9.5	-	
2003	Cases	4	13	26	93	172	118	78	68	71	91	0	
	Rate	4.6	1.9	1.3	4.4	8.0	4.6	3.3	4.1	6.2	7.9	-	



**Table 3**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada: 1993–2003**

Birthplace	Year of diagnosis												
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003		
Canadian-born	Aboriginal												
	North American Indian	Cases	261	271	266	218	256	205	255	174	257	203	231
		Rate	-	-	-	-	-	-	-	-	36.0	27.9	31.1
	Status (registered) Indian	Cases	260	270	263	218	212	191	247	167	199	166	205
		Rate	45.1	45.3	42.9	34.6	32.8	29.0	36.6	24.2	28.3	23.1	28.1
	Non-status Indian	Cases	1	1	3	0	44	14	8	7	58	37	26
		Rate	-	-	-	-	-	-	-	-	-	-	-
	Inuit	Cases	58	35	24	26	18	35	28	56	53	33	11
		Rate	109.6	64.5	43.1	45.5	30.9	58.7	45.9	91.5	111.4	67.8	22.1
	Metis	Cases	54	93	55	51	8	39	31	29	5	6	5
	Rate	-	-	-	-	-	-	-	-	1.6	1.9	1.6	
Foreign-born	<b>Total Aboriginal</b>	Cases	373	399	345	295	282	279	314	259	315	242	247
		Rate	33.1	34.6	29.4	24.8	23.2	22.5	25.1	20.5	29.5	22.3	22.3
	Non-Aboriginal	Cases	577	489	443	373	403	347	327	314	282	259	229
		Rate	2.6	2.2	1.9	1.6	1.7	1.5	1.4	1.3	1.2	1.1	1.0
	<b>Total Canadian-born</b>	Cases	950	888	788	668	685	626	641	573	597	501	476
		Rate	4.0	3.7	3.2	2.7	2.8	2.5	2.6	2.2	2.4	2.0	1.9
	Africa, High HIV Prevalence (AFR-High)	Cases	45	64	52	52	76	79	64	66	71	84	79
		Rate	-	-	-	-	-	-	-	-	45.0	50.0	44.7
	Africa, Low HIV Prevalence (AFR-Low)	Cases	8	4	10	5	12	9	12	14	8	18	22
		Rate	-	-	-	-	-	-	-	-	11.3	23.2	26.0
American Region - Latin American and Caribbean Countries (AMR)	Cases	91	98	112	92	97	87	70	80	60	61	75	
	Rate	-	-	-	-	-	-	-	-	8.8	8.7	10.3	

...cont'd

**Table 3** *Cont'd*

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada: 1993–2003**

Birthplace	Year of diagnosis											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Foreign-born ( <i>cont'd</i> )	Cases	131	122	121	101	121	112	112	92	95	73	75
	Rate	-	-	-	-	-	-	-	-	3.5	2.7	2.8
Established Market Economies and Central Europe (EME-CEUR)	Cases	29	26	21	11	18	26	26	26	14	26	25
	Rate	-	-	-	-	-	-	-	-	5.5	9.5	8.6
Eastern Europe (EEUR)	Cases	112	152	122	147	119	104	113	118	107	119	109
	Rate	-	-	-	-	-	-	-	-	22.7	22.8	19.0
Eastern Mediterranean (EMR)	Cases	159	167	165	176	199	193	192	207	234	217	241
	Rate	-	-	-	-	-	-	-	-	47.0	40.1	41.1
South-East Asia (SEAR)	Cases	485	549	519	543	566	504	502	480	452	459	451
	Rate	-	-	-	-	-	-	-	-	34.4	33.0	30.7
Western Pacific Region (WPR)	Cases	3	4	47	51	72	46	67	49	80	64	34
	Rate	-	-	-	-	-	-	-	-	-	-	-
Unknown	Cases	1,063	1,186	1,169	1,178	1,280	1,160	1,158	1,132	1,121	1,121	1,111
	Rate	20.3	22.2	21.0	22.5	23.9	21.2	20.8	19.6	18.3	17.7	16.9
Total foreign-born	Cases	-	-	7	31	30	23	21	18	52	48	41
	Rate	-	-	-	-	-	-	-	-	-	-	-
Unknown	Cases	2,013	2,074	1,964	1,877	1,995	1,809	1,820	1,723	1,770	1,670	1,628
	Rate	7.0	7.2	6.7	6.3	6.7	6.0	6.0	5.6	5.7	5.3	5.1
<b>TOTAL</b>												

**Table 4**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1993-2003**

Main diagnostic site	Year of diagnosis	Year of diagnosis										
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Respiratory	Cases	189	152	164	120	131	128	153	102	120	88	79
	Rate	0.7	0.5	0.6	0.4	0.4	0.4	0.5	0.3	0.4	0.3	0.2
Pulmonary**	Cases	1,171	1,203	1,140	1,061	1,139	1,043	1,083	1,047	1,103	993	960
	Rate	4.1	4.1	3.9	3.6	3.8	3.5	3.6	3.4	3.6	3.2	3.0
Other respiratory†	Cases	99	131	104	105	104	97	83	85	75	79	64
	Rate	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.2
Nonrespiratory	Cases	48	56	44	48	60	38	33	25	18	29	20
	Rate	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Meninges and CNS	Cases	19	18	21	20	25	24	15	18	16	18	25
	Rate	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Peripheral lymph node	Cases	281	301	254	241	266	276	240	254	238	242	249
	Rate	1.0	1.0	0.9	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8
Other‡	Cases	203	206	208	261	251	177	183	155	177	185	194
	Rate	0.7	0.7	0.7	0.9	0.8	0.6	0.6	0.5	0.6	0.6	0.6
Unknown	Cases	3	7	29	21	19	26	30	37	23	36	37
	Rate	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

\* Primary includes primary respiratory tuberculosis and tuberculous pleurisy in primary progressive tuberculosis, (ICD-9 codes 010.0-010.9; ICD-10 A15.7 and A16.7).

\*\* Pulmonary includes tuberculosis of the lungs and conducting airways which includes tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia, tuberculous pneumothorax, isolated tracheal or bronchial tuberculosis and tuberculous laryngitis; (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9).

† Other respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.8).

‡ Other includes tuberculosis of intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal and spleen.

Table 5A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada and provinces/territories: 2003

Age group	CANADA	Province/territory													
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	
<1	Cases	7	0	0	0	0	0	0	2	1	3	1	0	0	0
	Rate	2.1	0.0	0.0	0.0	0.0	0.0	1.5	7.3	25.6	2.5	0.0	0.0	0.0	0.0
1 – 4	Cases	33	0	0	1	0	0	3	6	3	16	0	1	0	1
	Rate	2.4	0.0	0.0	2.7	0.0	1.1	5.3	33.0	0.0	0.6	0.0	74.8	35.6	
5 – 14	Cases	41	0	0	0	0	0	5	12	1	12	0	8	0	2
	Rate	1.0	0.0	0.0	0.0	0.0	0.7	0.6	8.5	0.0	1.6	0.0	13.6	29.4	
15 – 24	Cases	195	1	0	0	2	0	36	82	21	14	9	27	0	1
	Rate	4.5	1.4	0.0	0.0	2.0	0.0	3.7	5.0	12.8	9.3	1.9	4.8	0.0	14.8
25 – 34	Cases	333	0	1	0	2	0	47	167	41	16	21	37	0	1
	Rate	7.6	0.0	5.9	0.0	2.0	0.0	4.7	9.7	26.7	13.2	4.4	6.5	0.0	19.7
35 – 44	Cases	279	0	0	0	0	0	39	122	20	14	17	64	1	1
	Rate	5.4	0.0	0.0	0.0	0.0	0.0	3.2	5.9	11.3	9.7	3.2	9.5	17.9	25.9
45 – 54	Cases	204	0	0	1	1	0	32	87	19	9	14	40	0	1
	Rate	4.3	0.0	0.0	0.7	0.8	0.0	2.7	5.0	11.7	6.5	3.1	6.3	0.0	18.1
55 – 64	Cases	155	0	0	2	3	0	30	59	8	2	15	36	0	0
	Rate	4.8	0.0	0.0	1.9	3.6	0.0	3.6	4.9	7.2	2.2	5.4	8.2	0.0	0.0
65 – 74	Cases	177	1	1	0	2	0	27	73	7	4	19	39	0	4
	Rate	8.1	2.7	10.0	0.0	3.8	0.0	4.9	8.7	9.0	5.6	10.6	13.1	0.0	344.8
75 +	Cases	204	4	1	2	2	0	36	83	6	1	14	53	0	2
	Rate	10.9	13.9	11.1	3.2	4.1	0.0	8.1	11.7	7.5	1.3	9.6	20.0	0.0	316.0
TOTAL	Cases	1,628	6	3	6	12	255	693	127	91	110	305	1	12	7
	Rate	5.1	1.2	2.2	0.6	1.6	3.4	5.7	10.9	9.2	3.5	7.3	3.3	28.4	24.0

**Table 5B**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada and provinces/territories: 2003**

Age group	CANADA	Province/territory														
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.		
<1	Cases	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0
	Rate	0.0	0.0	0.0	0.0	0.0	3.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1 – 4	Cases	0	0	0	0	2	4	2	9	0	1	0	0	2	0	0
	Rate	0.0	0.0	0.0	0.0	1.3	1.4	6.9	36.1	0.0	1.2	0.0	0.0	152.8	0.0	0.0
5 – 14	Cases	0	0	0	0	4	3	0	2	0	3	0	1	2	0	2
	Rate	0.0	0.0	0.0	0.0	0.9	0.4	0.0	2.7	0.0	1.2	0.0	0.0	26.3	0.0	57.2
15 – 24	Cases	1			2	18	43	13	10	3	9	0	1	2	0	2
	Rate	4.6	0.0	0.0	3.8	3.6	5.1	15.5	12.8	1.2	3.1	0.0	0.0	28.3	0.0	74.9
25 – 34	Cases	0	0	0	1	24	79	24	6	11	15	0	0	1	0	1
	Rate	0.0	0.0	0.0	2.0	4.7	9.1	30.5	9.8	4.5	5.3	0.0	0.0	0.0	0.0	38.9
35 – 44	Cases	0	0	0	0	23	72	11	9	14	30	1	1	0	0	0
	Rate	6.1	0.0	0.0	0.0	3.7	7.0	12.2	12.5	5.2	9.0	37.6	27.3	0.0	0.0	0.0
45 – 54	Cases	0	0	0	1	18	52	10	5	11	29	0	0	0	0	0
	Rate	5.4	0.0	0.0	1.7	3.1	6.0	12.3	7.2	4.7	9.1	0.0	0.0	0.0	0.0	0.0
55 – 64	Cases	0	0	1	2	16	34	5	1	8	20	0	0	0	0	0
	Rate	5.4	0.0	1.9	4.8	3.9	5.7	9.1	2.2	5.8	9.2	0.0	0.0	0.0	0.0	0.0
65 – 74	Cases	1	0	0	1	20	41	4	3	10	24	0	2	0	0	0
	Rate	10.2	0.0	0.0	4.0	7.8	10.3	10.9	8.9	11.5	16.4	0.0	317.0	0.0	0.0	0.0
75 +	Cases	1	1	2	2	22	45	4	0	7	27	0	2	0	0	0
	Rate	15.7	30.2	8.6	10.9	13.6	16.4	13.2	0.0	12.0	25.3	0.0	657.9	0.0	0.0	0.0
TOTAL	Cases	894	3	3	9	147	375	73	46	64	158	1	9	5	5	5
	Rate	5.7	1.2	0.7	2.4	4.0	6.2	12.7	9.3	4.0	7.7	6.5	41.2	33.1	33.1	33.1

**Table 5C**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada and provinces/territories: 2003**

Age group	Province/territory													
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<1	Cases	4	0	0	0	0	0	1	2	1	0	0	0	0
	Rate	2.5	0.0	0.0	0.0	0.0	0.0	15.0	35.0	5.2	0.0	0.0	0.0	0.0
1 – 4	Cases	13	0	0	1	0	2	1	7	0	0	0	0	1
	Rate	1.9	0.0	0.0	5.5	0.0	0.7	3.6	29.8	0.0	0.0	0.0	0.0	74.1
5 – 14	Cases	26	0	0	0	0	9	1	10	0	5	0	0	0
	Rate	1.3	0.0	0.0	0.0	0.0	1.1	1.3	14.5	0.0	2.1	0.0	0.0	0.0
15 – 24	Cases	93	0	0	0	0	39	8	4	6	18	0	0	0
	Rate	4.4	0.0	0.0	0.0	0.0	4.8	10.0	5.5	2.6	6.5	0.0	0.0	0.0
25 – 34	Cases	172	0	1	0	1	88	17	10	10	22	0	0	0
	Rate	8.0	0.0	11.6	0.0	2.0	10.2	22.7	16.7	4.4	7.8	0.0	0.0	0.0
35 – 44	Cases	118	0	0	0	0	50	9	5	3	34	0	0	1
	Rate	4.6	0.0	0.0	0.0	0.0	4.9	10.3	7.0	1.2	10.0	0.0	0.0	55.1
45 – 54	Cases	78	0	0	1	0	35	9	4	3	11	0	1	0
	Rate	3.3	0.0	0.0	1.4	0.0	4.0	11.0	5.9	1.3	3.4	0.0	37.8	0.0
55 – 64	Cases	68	0	0	1	1	25	3	1	7	16	0	0	0
	Rate	4.1	0.0	0.0	1.9	2.4	4.1	5.3	2.2	5.1	7.3	0.0	0.0	0.0
65 – 74	Cases	71	0	1	0	1	32	3	1	9	15	0	2	0
	Rate	6.2	0.0	19.2	0.0	3.6	7.2	7.3	2.7	9.8	9.9	0.0	378.1	0.0
75 +	Cases	91	3				38	2	1	7	26	0	0	0
	Rate	7.9	17.2	0.0	0.0	0.0	8.7	4.0	2.2	7.9	16.4	0.0	0.0	0.0
<b>TOTAL</b>	<b>Cases</b>	<b>734</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>318</b>	<b>54</b>	<b>45</b>	<b>46</b>	<b>147</b>	<b>0</b>	<b>3</b>	<b>2</b>
	<b>Rate</b>	<b>4.6</b>	<b>1.1</b>	<b>2.8</b>	<b>0.6</b>	<b>0.8</b>	<b>5.1</b>	<b>9.2</b>	<b>9.0</b>	<b>2.9</b>	<b>7.0</b>	<b>0.0</b>	<b>14.7</b>	<b>14.2</b>

**Table 6**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 2003**

Birthplace	CANADA	Province/territory											
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North	
Canadian-born	Cases	231	0	0	0	0	2	8	88	81	16	24	12
	Rate	31.1	0.0	0.0	0.0	2.8	4.8	83.2	15.6	17.5	60.9		
	Cases	205	0	0	0	0	8	88	57	16	24	12	
	Rate	28.1	0.0	0.0	0.0	0.0	4.8	75.1	49.1	17.1	20.4	49.7	
	Cases	26	0	0	0	2	0	0	24	0	0	0	
	Rate	-	-	-	-	-	-	-	-	-	-	-	
	Cases	11	1	0	0	2	0	0	0	1	0	0	7
	Rate	22.1	20.1	-	-	19.5	0.0	0.0	0.0	85.7	0.0	0.0	23.7
	Cases	5	0	0	0	0	0	0	1	2	2	0	
	Rate	1.6	0.0	0.0	0.0	-	-	-	2.1	2.8	4.2	0.0	
Foreign-born	Cases	247	1	0	0	4	8	88	82	19	26	19	
	Rate	22.3	4.9	-	-	4.0	3.6	53.0	56.6	10.8	14.0	35.2	
	Cases	229	3	1	4	8	81	54	18	5	37	0	
	Rate	1.0	0.6	0.8	0.5	1.1	1.2	0.6	2.1	0.6	0.7	1.3	0.0
	Cases	476	4	1	4	8	85	62	106	87	37	63	19
	Rate	1.9	0.8	0.8	0.5	1.1	1.3	0.7	10.5	9.3	1.4	2.1	20.1
	Cases	79	0	0	0	0	24	41	5	1	5	3	
	Rate	44.7	0.0	0.0	0.0	98.8	44.1	113.2	40.1	23.8	10.3	0.0	
	Cases	22	0	0	0	1	9	6	2	0	3	1	0
	Rate	26.0	0.0	0.0	0.0	194.6	21.1	18.9	145.3	0.0	80.1	32.5	0.0
Cases	75	0	1	0	0	41	24	3	1	1	4	0	
Rate	10.3	0.0	537.6	0.0	0.0	26.8	5.2	14.8	30.3	2.7	8.8	0.0	

...cont'd

**Table 6** *Cont'd*

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 2003**

Birthplace	CANADA	Province/territory													
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North			
Foreign-born ( <i>cont'd</i> )	Cases	75	0	0	0	0	0	10	42	0	0	0	9	14	0
	Rate	2.8	0.0	0.0	0.0	0.0	3.1	2.9	0.0	0.0	0.0	0.0	3.9	3.0	0.0
Established Market Economies and Central Europe (EME-CEUR)	Cases	25	0	0	0	0	2	20	20	1	0	2	0	0	0
	Rate	8.6	0.0	0.0	0.0	0.0	3.9	11.3	10.5	0.0	10.1	0.0	0.0	0.0	0.0
Eastern Europe (EEUR)	Cases	109	1	0	1	18	67	2	10	8	1	10	8	1	1
	Rate	19.0	156.5	0.0	15.9	13.5	19.5	41.0	0.0	29.6	17.1	507.6	17.1	507.6	0.0
Eastern Mediterranean (EMR)	Cases	241	0	0	1	17	154	1	2	10	56	0	0	0	0
	Rate	41.1	0.0	0.0	47.9	39.8	41.6	12.8	88.1	27.4	45.4	0.0	0.0	0.0	0.0
South-East Asia (SEAR)	Cases	451	0	0	0	45	225	7	33	140	0	0	0	0	0
	Rate	30.7	0.0	0.0	0.0	43.3	31.6	18.5	0.0	24.5	30.4	0.0	0.0	0.0	0.0
Western Pacific Region (WPR)	Cases	34	0	1	0	0	31	0	0	3	0	0	0	0	0
	Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown	Cases	1,111	1	2	2	166	610	21	4	73	229	1	1	1	1
	Rate	16.9	8.8	39.4	3.7	18.9	16.7	13.5	7.0	14.1	19.1	13.7	14.1	19.1	13.7
Total foreign-born	Cases	41	1	0	0	4	21	0	0	0	13	0	0	0	0
	Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown	Cases	1,628	6	3	6	255	693	127	91	110	305	20	20	20	20
	Rate	5.1	1.2	2.2	0.6	3.4	5.7	10.9	9.2	3.5	7.3	19.6	3.5	7.3	19.6

Note: Rates with small case numbers may be unstable.



**Table 7**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada and provinces/territories: 2003**

Main diagnostic site	CANADA	Province/territory													
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	
Respiratory	Cases	79	0	0	0	1	0	34	8	29	1	4	0	2	0
	Rate	0.2	-	-	0.1	-	0.3	0.7	2.9	-	0.1	-	6.5	-	-
Pulmonary**	Cases	960	6	2	3	6	166	79	41	59	193	0	7	3	
	Rate	3.0	1.2	1.5	0.3	0.8	2.2	6.8	4.1	1.9	4.6	-	22.9	7.1	
Other respiratory†	Cases	64	0	0	1	0	13	0	8	11	15	1	0	0	
	Rate	0.2	-	0.1	-	0.2	-	1.3	0.8	0.3	0.4	1.0	-	-	
Non-respiratory	Cases	20	0	0	0	0	8	0	0	6	4	0	0	1	
	Rate	0.1	-	-	-	0.1	-	0.1	-	0.2	0.1	-	-	2.4	
Meninges and CNS	Cases	25	0	0	0	0	2	13	1	3	5	0	0	1	
	Rate	0.1	-	-	-	-	0.1	0.1	0.1	0.1	0.1	-	-	2.4	
Peripheral lymph node	Cases	249	0	0	0	0	30	129	11	16	53	0	2	0	
	Rate	0.8	-	-	-	0.4	1.1	0.9	0.8	0.5	1.3	-	6.5	-	
Other‡	Cases	194	0	1	2	4	36	86	12	14	31	0	1	2	
	Rate	0.6	-	0.7	0.2	0.5	0.5	0.7	1.0	0.4	0.7	-	3.3	4.7	
Unknown	Cases	37	0	0	0	1	0	36	0	0	0	0	0	0	
	Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL</b>	<b>Cases</b>	<b>1,628</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>255</b>	<b>693</b>	<b>127</b>	<b>91</b>	<b>110</b>	<b>305</b>	<b>1</b>	<b>12</b>	<b>7</b>
	<b>Rate</b>	<b>5.1</b>	<b>1.2</b>	<b>2.2</b>	<b>0.6</b>	<b>1.6</b>	<b>3.4</b>	<b>5.7</b>	<b>10.9</b>	<b>9.2</b>	<b>3.5</b>	<b>7.3</b>	<b>3.3</b>	<b>28.4</b>	<b>24.0</b>

\* Primary includes primary respiratory tuberculosis and tuberculous pleurisy in primary progressive tuberculosis, (ICD-9 codes 010.0-010.9; ICD-10 A15.7 and A16.7).

\*\* Pulmonary includes tuberculosis of the lungs and conducting airways which includes tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia, tuberculous pneumothorax, isolated tracheal or bronchial tuberculosis and tuberculous laryngitis; (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9).

† Other respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.8).

‡ Other includes tuberculosis of intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal and spleen.

**Table 8**  
**Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2003**

Canadian-born	Birthplace	TOTAL	Age group									
			< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 +
Aboriginal	Male	124	1	14	3	23	24	24	15	6	11	3
	Female	107	3	8	10	12	25	18	11	9	8	3
	<b>Total</b>	<b>231</b>	<b>4</b>	<b>22</b>	<b>13</b>	<b>35</b>	<b>49</b>	<b>42</b>	<b>26</b>	<b>15</b>	<b>19</b>	<b>6</b>
Status (registered) Indian	Male	115	1	13	2	19	23	23	15	6	10	3
	Female	90	2	7	7	10	20	15	10	9	8	2
	<b>Total</b>	<b>205</b>	<b>3</b>	<b>20</b>	<b>9</b>	<b>29</b>	<b>43</b>	<b>38</b>	<b>25</b>	<b>15</b>	<b>18</b>	<b>5</b>
Non-status Indian	Male	9	0	1	1	4	1	1	0	0	1	0
	Female	17	1	1	3	2	5	3	1	0	0	1
	<b>Total</b>	<b>26</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>
Metis	Male	2	0	0	0	0	0	0	1	1	0	0
	Female	3	0	0	0	0	0	3	0	0	0	0
	<b>Total</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
Inuit	Male	5	0	0	2	1	1	0	0	0	1	0
	Female	6	0	1	0	0	2	2	1	0	0	0
	<b>Total</b>	<b>11</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>
Total Aboriginal	Male	131	1	14	5	24	25	24	16	7	12	3
	Female	116	3	9	10	12	27	23	12	9	8	3
	<b>Total</b>	<b>247</b>	<b>4</b>	<b>23</b>	<b>15</b>	<b>36</b>	<b>52</b>	<b>47</b>	<b>28</b>	<b>16</b>	<b>20</b>	<b>6</b>
Non-Aboriginal	Male	154	2	6	5	13	11	20	18	27	18	34
	Female	75	1	2	10	8	8	6	5	8	9	18
	<b>Total</b>	<b>229</b>	<b>3</b>	<b>8</b>	<b>15</b>	<b>21</b>	<b>19</b>	<b>26</b>	<b>23</b>	<b>35</b>	<b>27</b>	<b>52</b>
Total Canadian-born	Male	285	3	20	10	37	36	44	34	34	30	37
	Female	191	4	11	20	20	35	29	17	17	17	21
	<b>Total</b>	<b>476</b>	<b>7</b>	<b>31</b>	<b>30</b>	<b>57</b>	<b>71</b>	<b>73</b>	<b>51</b>	<b>51</b>	<b>47</b>	<b>58</b>

...cont'd

**Table 8** *Cont'd*

**Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2003**

Birthplace	TOTAL	Age group									
		< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 +
Foreign-born	Male	0	0	0	7	21	10	5	0	0	0
	Female	0	0	0	7	16	8	3	1	1	0
	<b>Total</b>	0	0	0	14	37	18	8	1	1	0
Africa, High HIV Prevalence (AFR-High)	Male	0	0	0	1	7	2	2	0	1	0
	Female	0	0	1	5	2	0	1	0	0	0
	<b>Total</b>	0	0	1	6	9	2	3	0	1	0
Africa, Low HIV Prevalence (AFR-Low)	Male	0	0	0	1	10	7	8	3	2	3
	Female	0	1	0	6	9	4	3	9	5	3
	<b>Total</b>	0	1	0	7	19	11	11	12	7	6
American Region - Latin American and Caribbean Countries (AMR)	Male	0	0	1	1	5	3	6	5	9	11
	Female	0	0	0	3	4	4	2	7	6	8
	<b>Total</b>	0	0	1	4	9	7	8	12	15	19
Established Market Economies and Central Europe (EME-CEUR)	Male	0	0	0	2	3	1	2	1	1	5
	Female	0	0	1	0	3	1	1	0	2	2
	<b>Total</b>	0	0	1	2	6	2	3	1	3	7
Eastern Europe (EEUR)	Male	0	0	0	11	17	10	6	7	5	5
	Female	0	0	1	8	12	7	6	3	6	5
	<b>Total</b>	0	0	1	19	29	17	12	10	11	10
Eastern Mediterranean (EMR)	Male	0	0	1	18	28	30	17	7	13	9
	Female	0	1	0	17	35	14	15	11	12	13
	<b>Total</b>	0	1	1	35	63	44	32	18	25	22
South-East Asia (SEAR)	Male	0	0	2	19	29	46	43	27	40	37
	Female	0	0	3	24	43	48	26	19	18	27
	<b>Total</b>	0	0	5	43	72	94	69	46	58	64

...cont'd

**Table 8** *Cont'd*

**Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2003**

Birthplace	TOTAL	Age group									
		< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 +
Foreign-born ( <i>cont'd</i> )	Male	0	0	0	5	4	1	2	2	2	2
	Female	0	0	0	3	7	1	1	0	1	3
	<b>Total</b>	0	0	0	8	11	2	3	2	3	5
Total foreign-born	Male	0	0	5	65	124	110	91	52	73	72
	Female	0	2	6	73	131	87	58	50	51	61
	<b>Total</b>	-	2	11	138	255	197	149	102	124	133
Unknown	Male	0	0	0	0	1	7	1	1	3	4
	Female	0	0	0	0	6	2	3	1	3	9
	<b>Total</b>	0	0	0	0	7	9	4	2	6	13
TOTAL	Male	3	20	15	102	161	161	126	87	106	113
	Female	4	13	26	93	172	118	78	68	71	91
	<b>Total</b>	7	33	41	195	333	279	204	155	177	204

**Table 9**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group and main diagnostic site – Canada: 2003**

Age group	TOTAL	Main diagnostic site										
		Respiratory			Nonrespiratory				Unknown			
		Primary	Pulmonary	Other respiratory	Miliary	CNS	Lymph	Other				
< 1	Cases	7	4	2	0	0	0	0	0	0	1	0
	Rate	2.1	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
1 – 4	Cases	33	22	5	1	0	0	1	0	3	1	0
	Rate	2.4	1.6	0.4	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.0
5 – 14	Cases	41	14	20	0	1	1	1	3	2	2	0
	Rate	0.9	0.3	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
15 – 24	Cases	195	5	115	10	2	3	38	19	3	3	3
	Rate	4.8	0.1	2.8	0.2	0.0	0.1	0.9	0.5	0.1	0.1	0.1
25 – 34	Cases	333	8	187	20	3	4	71	25	15	15	15
	Rate	7.7	0.2	4.3	0.5	0.1	0.1	1.6	0.6	0.3	0.3	0.3
35 – 44	Cases	279	8	159	10	3	4	58	27	10	10	10
	Rate	7.2	0.2	4.1	0.3	0.1	0.1	1.5	0.7	0.3	0.3	0.3
45 – 54	Cases	204	7	117	3	1	5	40	26	5	5	5
	Rate	3.6	0.1	2.1	0.1	0.0	0.1	0.7	0.5	0.1	0.1	0.1
55 – 64	Cases	155	3	106	6	2	2	12	21	3	3	3
	Rate	4.8	0.1	3.3	0.2	0.1	0.1	0.4	0.6	0.1	0.1	0.1
65 – 74	Cases	177	4	107	4	5	1	16	40	0	0	0
	Rate	8.1	0.2	4.9	0.2	0.2	0.0	0.7	1.8	0.0	0.0	0.0
75 +	Cases	204	4	142	10	3	4	8	32	1	1	1
	Rate	10.9	0.2	7.6	0.5	0.2	0.2	0.4	1.7	0.1	0.1	0.1
<b>TOTAL</b>	<b>Cases</b>	<b>1,628</b>	<b>79</b>	<b>960</b>	<b>64</b>	<b>20</b>	<b>25</b>	<b>249</b>	<b>194</b>	<b>37</b>	<b>37</b>	<b>37</b>
	<b>Rate</b>	<b>5.1</b>	<b>0.2</b>	<b>3.0</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.8</b>	<b>0.6</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>

Table 10

## Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 2003

Birthplace	TOTAL	Main diagnostic site											
		Respiratory					Nonrespiratory						
		Primary*	Pulmonary**	Other respiratory†	Miliary	CNS	Lymph	Other‡	Unknown				
Canadian-born													
Aboriginal													
North American Indian	231	39	137	22	2	3	21	7	0				
Status (registered) Indian	205	34	121	19	2	3	19	7	0				
Non-status Indian	26	5	16	3	0	0	2	0	0				
Metis	5	0	5	0	0	0	0	0	0				
Inuit	11	0	7	0	1	1	0	2	0				
<b>Total Aboriginal</b>	<b>247</b>	<b>39</b>	<b>149</b>	<b>22</b>	<b>3</b>	<b>4</b>	<b>21</b>	<b>9</b>	<b>0</b>				
Non-Aboriginal	229	12	156	8	6	3	12	32	0				
<b>Total Canadian-born</b>	<b>476</b>	<b>51</b>	<b>305</b>	<b>30</b>	<b>9</b>	<b>7</b>	<b>33</b>	<b>41</b>	<b>0</b>				
Foreign-born													
Africa, High HIV Prevalence (AFR-High)	79	0	42	4	2	1	16	8	6				
Africa, Low HIV Prevalence (AFR-Low)	22	1	16	0	0	0	2	2	1				
American Region - Latin American and Caribbean Countries (AMR)	75	2	43	6	1	0	6	17	0				
Established Market Economies and Central Europe (EME-CEUR)	75	6	42	1	1	1	9	14	1				
Eastern Europe (EEUR)	25	1	17	1	0	0	2	2	2				
Eastern Mediterranean (EMR)	109	1	55	2	1	4	22	22	2				

...cont'd

**Table 10** *Cont'd*

**Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 2003**

	Birthplace	TOTAL	Main diagnostic site							
			Respiratory			Nonrespiratory				
			Primary*	Pulmonary**	Other respiratory†	Miliary	CNS	Lymph	Other‡	Unknown
Foreign-born ( <i>cont'd</i> )	South-East Asia (SEAR)	241	5	138	3	2	4	55	26	8
	Western Pacific Region (WPR)	451	7	263	17	3	5	96	47	13
	Unknown	34	1	23	0	0	1	4	3	2
	<b>Total foreign-born</b>	<b>1,111</b>	<b>24</b>	<b>639</b>	<b>34</b>	<b>10</b>	<b>16</b>	<b>212</b>	<b>141</b>	<b>35</b>
Unknown		41	4	16	0	1	2	4	12	2
<b>TOTAL</b>		<b>1,628</b>	<b>79</b>	<b>960</b>	<b>64</b>	<b>20</b>	<b>25</b>	<b>249</b>	<b>194</b>	<b>37</b>

\* Primary includes primary respiratory tuberculosis and tuberculous plerisy in primary progressive tuberculosis, (ICD-9 codes 010.0-010.9; ICD-10 A15.7 and A16.7).

\*\* Pulmonary includes tuberculosis of the lungs and conducting airways which includes tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia, tuberculous pneumothorax, isolated tracheal or bronchial tuberculosis and tuberculous laryngitis; (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9).

† Other respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.8).

‡ Other includes tuberculosis of intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal and spleen.

**Table 11**

**Reported new active and relapsed tuberculosis cases by birthplace and activity status – Canada: 2003**

	Birthplace	TOTAL	Activity status		
			New active cases	Relapsed cases	Unknown status
Canadian-born	Aboriginal				
	North American Indian	231	210	21	0
	Status (registered) Indian	205	184	21	0
	Non-status Indian	26	26	0	0
	Metis	5	4	1	0
	Inuit	11	10	1	0
	<b>Total Aboriginal</b>	<b>247</b>	<b>224</b>	<b>23</b>	<b>0</b>
	Non-Aboriginal	229	209	18	2
<b>Total Canadian-born</b>	<b>476</b>	<b>433</b>	<b>41</b>	<b>2</b>	
Foreign-born	Africa, High HIV Prevalence (AFR-High)	79	68	3	8
	Africa, Low HIV Prevalence (AFR-Low)	22	21	0	1
	American Region - Latin American and Caribbean Countries (AMR)	75	69	3	3
	Established Market Economies and Central Europe (EME-CEUR)	75	67	6	2
	Eastern Europe (EEUR)	25	23	1	1
	Eastern Mediterranean (EMR)	109	101	5	3
	South-East Asia (SEAR)	241	223	9	9
	Western Pacific Region (WPR)	451	404	33	14
	Unknown	34	27	2	5
	<b>Total foreign-born</b>	<b>1,111</b>	<b>1,003</b>	<b>62</b>	<b>46</b>
Unknown	41	33	2	6	
<b>TOTAL</b>	<b>1,628</b>	<b>1,469</b>	<b>105</b>	<b>54</b>	



**Table 12**

**Reported new active and relapsed tuberculosis cases by bacterial status – Canada and provinces/territories: 2003**

Bacterial status	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<b>1. Culture positive</b>														
a. Microscopy positive	657	3	2	3	7	115	123	124	26	62	183	1	4	4
b. Microscopy negative	295	2	1	1	3	76	71	2	16	37	80	0	6	0
c. Microscopy not done/unk.	208	0	0	0	2	33	143	0	3	11	16	0	0	0
<b>Total</b>	<b>1,160</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>12</b>	<b>224</b>	<b>337</b>	<b>126</b>	<b>45</b>	<b>110</b>	<b>279</b>	<b>1</b>	<b>10</b>	<b>4</b>
<b>2. Culture negative</b>														
a. Microscopy positive	11	0	0	0	0	2	7	0	0	0	2	0	0	0
b. Microscopy negative	57	0	0	2	0	13	27	0	0	0	12	0	2	1
c. Microscopy not done/unk.	9	0	0	0	0	0	9	0	0	0	0	0	0	0
<b>Total</b>	<b>77</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>3. Culture not done/unk.</b>														
a. Microscopy positive	33	1	0	0	0	1	31	0	0	0	0	0	0	0
b. Microscopy negative	20	0	0	0	0	10	9	0	0	0	1	0	0	0
c. Microscopy not done/unk.	338	0	0	0	0	5	273	1	46	0	11	0	0	2
<b>Total</b>	<b>391</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>313</b>	<b>1</b>	<b>46</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>TOTAL</b>	<b>1,628</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>255</b>	<b>693</b>	<b>127</b>	<b>91</b>	<b>110</b>	<b>305</b>	<b>1</b>	<b>12</b>	<b>7</b>

Table 13

## Reported new active and relapsed tuberculosis cases by bacterial status and birthplace – Canada: 2003

Bacterial status	TOTAL	Birthplace			
		Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
<b>1. Culture positive</b>					
a. Microscopy positive	657	153	107	387	10
b. Microscopy negative	295	33	40	219	3
c. Microscopy not done/unk.	208	4	22	170	12
<b>Total</b>	<b>1,160</b>	<b>190</b>	<b>169</b>	<b>776</b>	<b>25</b>
<b>2. Culture negative</b>					
a. Microscopy positive	11	0	1	10	0
b. Microscopy negative	57	4	11	41	1
c. Microscopy not done/unk.	9	0	1	8	0
<b>Total</b>	<b>77</b>	<b>4</b>	<b>13</b>	<b>59</b>	<b>1</b>
<b>3. Culture not done/unk.</b>					
a. Microscopy positive	33	2	1	30	0
b. Microscopy negative	20	0	5	15	0
c. Microscopy not done/unk.	338	66	41	231	0
<b>Total</b>	<b>391</b>	<b>68</b>	<b>47</b>	<b>276</b>	<b>0</b>
<b>TOTAL</b>	<b>1,628</b>	<b>262</b>	<b>229</b>	<b>1,111</b>	<b>26</b>

**Table 14**

**Reported new active and relapsed tuberculosis cases by bacterial status and main diagnostic site – Canada: 2003**

Bacterial status	TOTAL	Main diagnostic site							
		Respiratory			Nonrespiratory				
		Primary	Pulmonary	Other respiratory	Miliary	CNS	Lymph	Other	Unknown
<b>1. Culture positive</b>									
a. Microscopy positive	657	12	426	44	13	6	84	69	3
b. Microscopy negative	295	5	209	9	4	6	42	15	5
c. Microscopy not done/unk.	208	3	68	1	3	3	69	60	1
<b>Total</b>	<b>1,160</b>	<b>20</b>	<b>703</b>	<b>54</b>	<b>20</b>	<b>15</b>	<b>195</b>	<b>144</b>	<b>9</b>
<b>2. Culture negative</b>									
a. Microscopy positive	11	2	6	0	0	0	2	0	1
b. Microscopy negative	57	3	35	2	0	4	4	4	5
c. Microscopy not done/unk.	9	2	3	0	0	1	1	1	1
<b>Total</b>	<b>77</b>	<b>7</b>	<b>44</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>7</b>
<b>3. Culture not done/unk.</b>									
a. Microscopy positive	33	1	12	1	0	0	10	7	2
b. Microscopy negative	20	1	13	1	0	2	2	1	0
c. Microscopy not done/unk.	338	50	188	6	0	3	35	37	19
<b>Total</b>	<b>391</b>	<b>52</b>	<b>213</b>	<b>8</b>	<b>0</b>	<b>5</b>	<b>47</b>	<b>45</b>	<b>21</b>
<b>TOTAL</b>	<b>1,628</b>	<b>79</b>	<b>960</b>	<b>64</b>	<b>20</b>	<b>25</b>	<b>249</b>	<b>194</b>	<b>37</b>

**Table 15**  
**Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting by birthplace – Canada: 2003**

Drug pattern	TOTAL	Canadian-born		Foreign-born	Unknown birthplace
		Aboriginal	Non-Aboriginal		
Total positive cultures	1,160	190	169	776	25
Resistance pattern unknown	58	12	12	33	1
No resistance	988	172	148	646	22
Resistance to one or more drugs	114	6	9	97	2
<b>Monoresistance</b>					
INH	43	4	2	36	1
EMB	1	1	0	0	0
RMP	2	0	0	2	0
PZA	4	0	1	3	0
SM	21	0	2	19	0
<b>Total monoresistance</b>	<b>71</b>	<b>5</b>	<b>5</b>	<b>60</b>	<b>1</b>
<b>Multi-drug resistance (MDR-TB)</b>					
INH & RMP	4	0	0	4	0
INH & RMP & EMB	1	0	0	1	0
INH & RMP & PZA	2	0	1	1	0
INH & RMP & PZA & EMB	1	0	0	1	0
INH & SM & EMB & RMP	1	0	0	1	0
INH & SM & EMB & RMP & PZA	3	0	0	3	0
<b>Total MDR-TB</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>11</b>	<b>0</b>
<b>Other patterns</b>					
INH & SM	22	0	3	19	0
INH & EMB	2	0	0	2	0
INH & PZA	1	0	0	1	0
INH & EMB & SM	3	0	0	2	1
INH & SM & PZA	2	1	0	1	0
SM & PZA	1	0	0	1	0
<b>Total other patterns</b>	<b>31</b>	<b>1</b>	<b>3</b>	<b>26</b>	<b>1</b>

Note: MDR-TB is defined as resistance to at least INH and RMP

**Table 16**

**Reported new active and relapsed tuberculosis cases by method of detection – Canada and provinces/territories: 2003**

Case finding	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Immigration	67	1	0	0	0	0	61	0	0	2	3	0	0	0
Symptoms/incidental findings	1,227	5	2	4	11	164	529	78	65	95	261	1	8	4
Contact investigation	85	0	0	1	1	9	23	23	11	2	11	0	2	2
Post-mortem	20	0	1	0	0	5	2	1	0	0	11	0	0	0
Screening	93	0	0	1	0	28	34	1	15	4	7	0	2	1
Other	97	0	0	0	0	25	29	24	0	7	12	0	0	0
Unknown	39	0	0	0	0	24	15	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>1,628</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>255</b>	<b>693</b>	<b>127</b>	<b>91</b>	<b>110</b>	<b>305</b>	<b>1</b>	<b>12</b>	<b>7</b>

**Table 17**

**Reported new active and relapsed tuberculosis cases by method of detection and birthplace – Canada: 2003**

Case finding	TOTAL	Birthplace							
		Canadian-born				Foreign-born			
		Status (registered) Indian	Non-status Indian	Metis	Inuit	Non-Aboriginal	Unknown birthplace		
Immigration	67	0	0	0	0	0	0	67	0
Symptoms/incidental findings	1,227	134	20	4	6	167	872	24	24
Post-mortem	20	4	0	0	0	3	8	5	5
Contact-investigation	85	34	5	1	3	24	15	3	3
Screening	93	21	1	0	2	9	60	0	0
Other	97	10	0	0	0	18	64	5	5
Unknown	39	2	0	0	0	8	25	4	4
<b>TOTAL</b>	<b>1,628</b>	<b>205</b>	<b>26</b>	<b>5</b>	<b>11</b>	<b>229</b>	<b>1,111</b>	<b>41</b>	<b>41</b>

Table 18

## Reported new active and relapsed foreign-born tuberculosis cases by birthplace and year of arrival in Canada: 2003

Birthplace (WHO region)	TOTAL	Year of arrival														Unk.	
		≤ 1962	1963-1972	1973-1982	1983-1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002		2003
Africa, High HIV Prevalence (AFR-High)	79	0	0	3	3	0	0	1	0	2	0	3	5	5	6	7	44
Africa, Low HIV Prevalence (AFR-Low)	22	0	0	0	1	0	0	0	0	1	1	0	1	2	4	5	7
American Region - Latin American and Caribbean Countries (AMR)	75	0	3	7	11	0	1	1	1	1	1	3	3	1	4	5	33
Established Market Economies and Central Europe (EME-CEUR)	75	9	5	8	1	1	0	0	0	1	0	0	1	1	1	1	46
Eastern Europe (EEUR)	25	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	21
Eastern Mediterranean (EMR)	109	1	0	1	3	2	1	1	2	2	2	1	2	2	8	11	70
South-East Asia (SEAR)	241	2	4	11	17	4	2	3	3	3	4	3	1	5	7	14	158
Western Pacific Region (WPR)	451	4	8	27	54	10	9	7	13	8	7	9	12	18	13	17	235
Unknown	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	32
<b>TOTAL</b>	<b>1,111</b>	<b>19</b>	<b>20</b>	<b>57</b>	<b>90</b>	<b>17</b>	<b>13</b>	<b>13</b>	<b>19</b>	<b>18</b>	<b>15</b>	<b>19</b>	<b>25</b>	<b>34</b>	<b>44</b>	<b>62</b>	<b>646</b>

**Table 19**

**Reported new active and relapsed foreign-born tuberculosis cases by immigration status – Canada and provinces/territories: 2003**

Immigration status	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Landed immigrant or Canadian refugee	275	0	2	0	0	6	0	0	20	64	182	0	1	0
Refugee claimant	4	1	0	1	0	0	0	0	0	1	1	0	0	0
Non-resident (visitor, student, illegal alien)	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Other	28	0	0	1	1	0	0	0	1	5	20	0	0	0
Unknown	803	0	0	0	1	160	610	4	0	3	25	0	0	0
<b>TOTAL</b>	<b>1,111</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>166</b>	<b>610</b>	<b>4</b>	<b>21</b>	<b>73</b>	<b>229</b>	<b>0</b>	<b>1</b>	<b>0</b>

**Table 20**

**Reported relapsed tuberculosis cases by length of inactive interval – Canada and provinces/territories: 2003**

Interval	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
< 2 years	2	0	0	0	0	0	0	1	0	0	1	0	0	0
2-5 years	16	0	0	0	0	3	0	5	3	0	5	0	0	0
6-9 years	8	0	0	0	0	2	0	1	1	1	3	0	0	0
10-19 years	5	0	0	0	0	0	0	0	1	1	3	0	0	0
20+ years	33	2	1	0	1	6	0	2	4	4	10	0	3	0
Unknown	41	1	0	1	0	4	35	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>105</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>15</b>	<b>35</b>	<b>9</b>	<b>9</b>	<b>6</b>	<b>22</b>	<b>-</b>	<b>3</b>	<b>-</b>

**Table 21**

**Reported new active and relapsed tuberculosis cases who died in 2003, by cause of death – Canada and provinces/territories: 2003**

Cause of death	Province/territory													
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<b>Cases reported in 2002</b>														
TB contributed to death but was not the underlying cause	3	0	0	0	0	1	1	0	0	0	1	0	0	0
TB did not contribute to death but was an incidental finding	9	0	0	0	0	1	5	0	0	0	3	0	0	0
TB was the cause of death	3	0	0	0	0	0	2	0	1	0	0	0	0	0
Unknown	2	0	0	0	0	0	2	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cases reported in 2003</b>														
TB contributed to death but was not the underlying cause	31	1	1	0	0	11	0	5	0	4	9	0	0	0
TB did not contribute to death but was an incidental finding	23	0	1	0	1	5	0	5	0	0	11	0	0	0
TB was the cause of death	18	0	0	0	0	8	0	3	4	0	2	0	0	1
Unknown	40	0	0	0	0	1	38	0	1	0	0	0	0	0
<b>TOTAL</b>	<b>112</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>38</b>	<b>13</b>	<b>5</b>	<b>4</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>1</b>

**Table 22**

**Reported new active and relapsed tuberculosis cases reported in 2003 who died in 2003, by age group and sex – Canada: 2003**

Sex	TOTAL	Age group										
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +	
Male	65	0	0	1	1	3	2	6	11	14	27	
Female	47	0	0	0	1	2	4	1	4	10	25	
<b>TOTAL</b>	<b>112</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>15</b>	<b>24</b>	<b>52</b>	



**Table 23**

**Reported new active and relapsed tuberculosis cases by HIV status – Canada and provinces/territories: 2003**

HIV status	Province/territory													
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Positive	61	0	0	0	0	8	15	9	3	6	20	0	0	0
Negative	298	0	1	1	5	23	0	44	0	89	123	1	7	4
Unknown	1,269	6	2	5	7	224	678	74	88	15	162	0	5	3
<b>TOTAL</b>	<b>1,628</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>255</b>	<b>693</b>	<b>127</b>	<b>91</b>	<b>110</b>	<b>305</b>	<b>1</b>	<b>12</b>	<b>7</b>

**Table 24**

**Treatment outcome status – Canada and provinces/territories: 2002**

	TOTAL	Treatment outcome										
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown			
<b>CANADA</b>	<b>1,669</b>	<b>168</b>	<b>1,038</b>	<b>71</b>	<b>20</b>	<b>25</b>	<b>44</b>	<b>96</b>	<b>207</b>			
<b>Province/territory</b>												
Newfoundland	9	0	8	1	0	0	0	0	0	0	0	0
Prince Edward Island	1	0	1	0	0	0	0	0	0	0	0	0
Nova Scotia	9	1	5	1	0	0	0	0	0	0	0	2
New Brunswick	11	0	3	0	0	0	0	0	0	0	0	8
Quebec	288	18	99	13	1	0	0	6	151			
Ontario	715	0	564	0	0	12	39	79	21			
Manitoba	98	0	83	6	2	5	0	2	0			
Saskatchewan	89	75	0	6	0	0	0	0	0			
Alberta	128	40	62	13	5	0	4	1	3			
British Columbia	290	17	201	31	12	8	1	6	14			
Northwest Territories	4	1	3	0	0	0	0	0	0			
Nunavut	27	16	9	0	0	0	0	2	0			

**Table 25**

**Treatment outcome status by treatment regimen – Canada: 2002**

Treatment regimen	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
<b>TOTAL</b>	<b>1,669</b>	<b>168</b>	<b>1,038</b>	<b>71</b>	<b>20</b>	<b>25</b>	<b>44</b>	<b>96</b>	<b>207</b>
EMB	1	0	0	1	0	0	0	0	0
EMB & PZA	1	0	1	0	0	0	0	0	0
INH & EMB	1	0	0	0	0	0	0	1	
INH & EMB & PZA	1	0	1	0	0	0	0	0	0
INH & PZA	1	0	1	0	0	0	0	0	0
INH & RMB & PZA & SM	7	1	5	1	0	0	0	0	
INH & RMP	64	44	14	2	0	0	0	0	4
INH & RMP & EMB	32	17	7	6	0	0	0	0	2
INH & RMP & EMB & PZA	341	69	236	9	8	10	2	7	0
INH & RMP & EMB & PZA & others	6	1	5	0	0	0	0	0	0
INH & RMP & EMB & PZA & SM	8	0	6	1	1	0	0	0	0
INH & RMP & EMB & PZA & SM & others	2	0	1	0	1	0	0	0	0
INH & RMP & PZA	112	17	84	6	1	3	0	1	0
INH & RMP & PZA & others	1	0	1	0	0	0	0	0	0
RMP & EMB	2	0	2	0	0	0	0	0	0
RMP & EMB & PZA	6	0	5	1	0	0	0	0	0
RMP & EMB & SM	1	0	1	0	0	0	0	0	0
Unknown	1,082	19	668	44	9	12	42	87	201

**Table 26**

**Treatment outcome status by major mode of treatment – Canada: 2002**

Major mode of treatment	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
DOT (daily/intermittent)	360	143	178	18	4	6	1	4	6
Daily – self administered	338	20	276	13	8	7	1	11	2
Other	19	2	9	8	0	0	0	0	0
Unknown	952	3	575	32	8	12	42	81	199
<b>TOTAL</b>	<b>1,669</b>	<b>168</b>	<b>1,038</b>	<b>71</b>	<b>20</b>	<b>25</b>	<b>44</b>	<b>96</b>	<b>207</b>

**Table 27**

**Treatment outcome status by compliance estimate – Canada: 2002**

Compliance estimate	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
< 50%	7	2	0	1	0	2	0	2	0
50–79%	26	0	8	2	0	7	1	5	3
≥ 80%	593	154	409	16	7	1	1	2	3
Unknown	1,043	12	621	52	13	15	42	87	201
<b>TOTAL</b>	<b>1,669</b>	<b>168</b>	<b>1,038</b>	<b>71</b>	<b>20</b>	<b>25</b>	<b>44</b>	<b>96</b>	<b>207</b>

# APPENDIX II

## TECHNICAL NOTES

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### CONCEPTS, METHODS AND DATA QUALITY

The following information describes the strengths and limitations of the data in this report and how this data can be effectively used and interpreted. This information may be of particular importance when making comparisons with data from previous *TB in Canada* reports or other sources of information.

#### **Data sources**

The Canadian Tuberculosis Reporting System (CTBRS) is maintained by Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada. This surveillance system is derived from records of provincial/territorial tuberculosis registries that capture information on every new active and relapsed case of tuberculosis. The system has also been designed to capture information on treatment outcomes for these cases.

All provinces/territories voluntarily submit their case and outcome data to TBPC. Data for four of the thirteen provinces/territories are submitted electronically. The remaining provinces/territories submit paper reporting forms (*see Appendix VII*).

#### **Reference period**

The information contained in this report reflects the number of new and relapsed cases diagnosed between January 1, 2003 to December 31, 2003. Outcomes are reported on patients diagnosed between January 1, 2002 to December 31, 2002. Tables 1 through 4 present historical counts and rates for the years 1993 to 2003, inclusive.

#### **Data quality and validation**

Prior to analysis and publication, all data are reviewed for errors, inconsistencies and incomplete reporting. Follow-up is provided to the reporting jurisdiction identifying any concern or problems with the reported data. Previously reported data are also subject to revision in the event of late reporting or when revised information from the provinces/territories is received. Revisions are disseminated in subsequent reports.

Prior to the publication of *TB in Canada*, a pre-release containing selected tables is produced. The pre-release is sent to the provinces/territories for verification and is subsequently posted to the Public Health Agency of Canada website, <http://www.phac-aspc.gc.ca/tbpc-latb/index.html>.

## Data accuracy

The methods used to collect and analyse the data in this report have been designed to minimize error. However, surveillance data are subject to certain types of error (e.g., coverage, measurement and processing error)

The accuracy of the data (including completeness and coverage of the population of interest) is partially a function of timely reporting/updates to TBPC from the provinces/territories. Some degree of lag does occur (i.e., reporting delay), almost exclusively affecting preliminary data, and rarely the final data.

In general, the majority of data elements for case and outcome reports submitted to TBPC are complete. Reporting is less complete for some of the data elements introduced in 1997 such as HIV. Historically, Ontario and Quebec have not had the capacity to report individual case outcomes. However, some aggregate outcome data is now being provided.

Provinces/territories that do consistently report outcomes do not always report outcomes for all cases. However case reporting is improving and the percentage of outcomes reported in 2003 for the 2002 was 87% of all reported cases. Ongoing work with the provinces/territories will ensure that the data reported in the TB in Canada reports correspond with those reported at the provincial/territorial level. However, there are still limitations in this process.

The data reported may be subject to coding, reporting and processing errors that cannot be detected and are not corrected at source. Not all provinces/territories use ICD 9 or ICD 10 coding systems for disease, which are used to classify patients according to the main diagnostic site (see Table 4). Efforts are made to work with those provinces/territories using alternate coding systems to ensure that diagnostic reporting is as accurate as possible.

## Rates

Rates are expressed as the number of cases reported each calendar year per 100,000 population. The denominators used to calculate rates for total Canadian, provincial/territorial, total Canadian-born Aboriginal, Inuit and Metis were derived from official and custom census precuts from Statistics Canada, Demography Division.<sup>8</sup>

The rates presented for the total Aboriginal population including Metis, Inuit and North American Indian (combined Status (registered) Indian and non-status Indian counts) were derived from the 2001 census data published in the *Projections of the Aboriginal populations, Canada, provinces and territories, 2001 to 2017*.<sup>9</sup>

Starting with the *TB in Canada 2003* report, current and historical incidence rates for the Status (registered) Indian population are based on population estimates from Indian Affairs and Northern Affairs Canada. These estimates are considered a more accurate reflection of the true counts of the Status Indian population.<sup>10</sup> However, using different sources does introduce possibility of conflicting numbers. As a result, caution should be observed when drawing comparative conclusions between the Status (registered) Indian and other origin groups.

Starting with the *TB in Canada 2003* report, incidence rates in the foreign-born population from 2001 forward, are derived from population estimates based on the 2001 census in a Statistics Canada, Demography Division customized product. Incidence rates in the foreign-

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<sup>8</sup> Statistics Canada, Demography Division, Demographic, Estimates Section, Population estimates 0-90+ July Canada - Provinces 1971-2005, updated November 22 2005.

<sup>9</sup> Projections of the Aboriginal populations, Canada, provinces and territories 2001 to 2017 Demography Division, Statistics Canada Catalogue No. 91-547-XIE.

<sup>10</sup> INAC, *Registered Indian Population by Sex and Residence 2003*. Available at: [http://www.ainc-inac.gc.ca/pr/sts/rip/rip03\\_e.pdf](http://www.ainc-inac.gc.ca/pr/sts/rip/rip03_e.pdf).

born population are presented according to the eight Stop-TB /WHO TB Epidemiological Regions described in the *Actions for Life: Towards a World Free of Tuberculosis, The Global Plan to Stop TB, 2006 – 2015*.<sup>11</sup>

The eight TB epidemiological regions include: the Established Market Economies (EME) and the Central European countries (CEUR); African countries with high HIV prevalence (AFR High HIV); African countries with low HIV prevalence (AFR Low HIV); the American Region (AMR) – Latin America Countries (LAC); Eastern Europe Region (EEUR); -Eastern Mediterranean Region (EMR); South-East Asia Region (SEAR); and the Western Pacific Region (WP). Because EME and CEUR have similarly high per capita income level and low tuberculosis incidence rates the results for these two regions are combined.

Population denominators for the Canadian-born non-Aboriginal population are derived using the following formula:

$$\begin{array}{c} \text{Canadian-born non-Aboriginal} \\ = \\ \text{Total Canadian Population (Statistics Canada)} \\ - \text{Foreign Born (Statistics Canada)} \\ - \text{Total Aboriginal persons (Statistics Canada)} \end{array}$$

Finally, the historical rates, presented in this and subsequent reports are updated periodically as new estimates become available, which may explain inconsistencies between historical rates presented in previous *TB in Canada* reports.

## Privacy and confidentiality

Starting with the 2003 report, tables reporting on provincial/territorial case counts and rates have been expanded to report on each province and territory as opposed to aggregate data for the four Atlantic provinces and three territories. However, to avoid any potential issues with confidentiality and privacy, tables where population counts become too small may be collapsed in regions (e.g. for the three territories into “North”). In general, data will be suppressed in all instances where population denominators in a table’s cell fall below 40.

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<sup>11</sup> Stop TB Partnership and World Health Organization. Global Plan to Stop TB 2006–2015. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

## **VARIABLES MEASURED**

The statistical data presented in this report refer to cases and rates of new active or relapsed tuberculosis and treatment outcomes.

Case definitions in effect in 2003

### **I TB case definition in the Canadian Tuberculosis Reporting System (CTBRS)**

- a. Cases with *Mycobacterium tuberculosis* complex (i.e. *M. tuberculosis*, *M. bovis* [excluding BCG strain] or *M. africanum*) demonstrated on culture

OR

- b. In the absence of bacteriological proof, cases clinically compatible with active tuberculosis that have, for example:
- i chest x-ray changes compatible with active tuberculosis including idiopathic pleurisy with effusion
  - ii active extrapulmonary tuberculosis (meningeal, bone, kidney, peripheral lymph nodes etc.)
  - iii pathologic or post-mortem evidence of active tuberculosis

**Note:** Molecular biological techniques are research tools and are not included in the definition.

### **II Cases of tuberculosis diagnosed in Canada include all cases: Canadian born, immigrants, refugees, refugee claimants, students, visitors, migrant workers and illegal aliens.**

Visitors = those non-Canadians traveling with or without a visa, stopping in Canada en route.

### **III New and relapsed (reactivated) cases of tuberculosis**

- a. **New case:** no documented evidence or history of previously active tuberculosis.
- b. **Relapsed (reactivated) case:** documented evidence or history of previously active tuberculosis which became inactive.
- c. **Inactive tuberculosis:**
- i Cultures for *M. tuberculosis* negative for at least 6 months

OR

- ii In the absence of cultures, chest (or other) x-rays, stable for a minimum of 6 months.

#### IV Treatment outcomes

**Cure** – Negative culture at completion of treatment.

**Treatment completed** – Patient who has completed treatment without culture at the end of treatment.

**Died** – Death during treatment

- a. TB was the cause of death;
- b. TB contributed to death but was not the underlying cause; or
- c. TB did not contribute to death.

**Transfer** – Patient transferred to new jurisdiction and the outcome of treatment is unknown.

**Failure** – Culture positive at 5 months or more

**Abandoned** – Patient was lost to follow-up before completion of 80% of doses, 8 months after treatment started

**Treatment ongoing** – Treatment is ongoing at the time of the treatment outcome report

**Other**

**Unknown**

#### Diagnostic classification

The diagnostic classification of tuberculosis (TB) in Canada is based upon the International Classification of Diseases, 9th and 10th Editions. For each case of TB, up to 5 individual diagnoses are captured for reporting purposes. Starting with the 2003 report, main diagnostic sites were divided into two broad categories: respiratory and non-respiratory. Respiratory is further subdivided into primary, pulmonary and other respiratory.

**Primary** includes primary respiratory tuberculosis and tuberculous pleurisy in primary progressive tuberculosis (ICD-9 codes 010.0-010.9; ICD-10 A15.7 and A16.7).

**Pulmonary** includes tuberculosis of the lungs and conducting airways: tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia, tuberculous pneumothorax, isolated tracheal or bronchial tuberculosis and tuberculous laryngitis (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9).

**Other Respiratory** includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.4, A16.8).

**Nonrespiratory tuberculosis** includes miliary, central nervous system, lymph and other sites.



Cases are identified by the following hierarchy:

1. primary respiratory TB;
2. pulmonary;
3. other respiratory TB;
4. miliary/disseminated;
5. meninges/central nervous system;
6. peripheral lymph node; and
7. other sites ( includes tuberculosis of intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal and spleen).

For cases with multiple diagnostic sites, the placement of the case into a disease group is determined using the hierarchy above. As an example, a case may have been diagnosed with TB of the *peripheral lymph nodes (scrofula, scrofulous abscess, tuberculous adenitis)* (ICD-9 17.2) and *tuberculosis of lung, infiltrative* (ICD-9 11.0). Because pulmonary TB is above peripheral lymph TB in the hierarchy, this case would be classified as pulmonary TB.

#### CODE TABLE LISTING BY ICD-9 CODE FOR DIAGNOSIS

##### 010 Primary Tuberculosis

010.0 Primary tuberculous complex

010.1 Tuberculous pleurisy in primary progressive tuberculosis

This disease state is characterized by pleuritis and pleural effusion, usually in an adolescent or young adult, but possibly in any age group, due to recent (within the preceding 24 months) infection with *Mycobacterium tuberculosis* complex. If another site of tuberculosis disease, such as CNS or disseminated/miliary disease, is believed to have occurred as a consequence of recent infection (within the preceding 24 months), it ought to be referred to as primary CNS (etc.) disease.

010.8 Other primary progressive tuberculosis (excl. tuberculous erythema nodosum {017.1})

This is usually, but not always, in a child, and is due to infection within the preceding 24 months with *Mycobacterium tuberculosis* complex. It includes pulmonary (lung parenchyma) tuberculosis, as well as tuberculosis of the intrathoracic lymph nodes, larynx, trachea, bronchus, or nasopharyngeal sinuses

010.9 Unspecified

##### 011 Pulmonary Tuberculosis (with associated silicosis use code 502)

011.0 Tuberculosis of lung, infiltrative

011.1 Tuberculosis of lung, nodular

011.2 Tuberculosis of lung with cavitation

011.3 Tuberculosis of bronchus (excl. isolated bronchial TB {012.2})

011.4 Tuberculous fibrosis of lung

011.5 Tuberculous bronchiectasis

011.6 Tuberculous pneumonia (any form)

011.7 Tuberculous pneumothorax

- 011.8 Other pulmonary tuberculosis
- 011.9 Unspecified (respiratory tuberculosis NOS, tuberculosis of lung NOS)
- 012 Other Respiratory Tuberculosis** (excl. respiratory tuberculosis, unspecified {011.9})
  - 012.0 Tuberculous pleurisy
  - 012.1 Tuberculosis of intrathoracic lymph nodes
  - 012.2 Isolated tracheal or bronchial tuberculosis
  - 012.3 Tuberculous laryngitis
  - 012.8 Other (incl. tuberculosis of: mediastinum, nasopharynx, nose (septum), sinus (any nasal))
- 013 Tuberculosis of Meninges and Central Nervous System**
  - 013.0 Tuberculous meningitis (320.4) (excl. tuberculoma of meninges {013.1})
  - 013.1 Tuberculoma of meninges (349.2)
  - 013.8 Other (tuberculoma/tuberculosis of brain {348.8}, tuberculous abscess of brain {324.0}, tuberculous myelitis {323.4})
  - 013.9 Unspecified (tuberculosis of central nervous system NOS)
- 014 Tuberculosis of Intestines, Peritoneum and Mesenteric Glands**

Tuberculosis of: anus, intestine (large, small), rectum, retroperitoneal (lymph nodes)  
Tuberculous: ascites, enteritis, peritonitis (567.0)
- 015 Tuberculosis of Bones and Joints**

Incl. tuberculous: arthritis (711.4), necrosis of bone (730.-), osteitis (730.-), osteomyelitis (730.-), synovitis (727.0), tenosynovitis (727.0).

  - 015.0 Vertebral column
    - Pott's: curvature (737.4), disease (730.4)
    - Tuberculous: kyphosis (737.4), spondylitis (720.8)
  - 015.1 Hip
  - 015.2 Knee
  - 015.7 Other bone (tuberculous dactylitis, mastoiditis {383.1})
  - 015.8 Other joint
  - 015.9 Unspecified
- 016 Tuberculosis of Genitourinary System**
  - 016.0 Kidney (tuberculous pyelitis {590.8}, tuberculous pyelonephritis {590.8})
  - 016.1 Other urinary organs (tuberculosis of bladder {595.4}, tuberculosis of ureter {593.8})
  - 016.2 Epididymis (604.9)
  - 016.3 Other male genital organs (tuberculosis of: prostate {601.4}, seminal vesicle {608.8}, testis {608.8})
  - 016.4 Female genital organs (tuberculous: oophoritis {614.2}, salpingitis {614.2})
  - 016.9 Unspecified

**017 Tuberculosis of Other Organs**

- 017.0 Skin and subcutaneous cellular tissue  
Lupus: NOS, exedens, vulgaris, Scrofuloderma  
(excl. lupus erythematosus {695.4}, disseminated {710.0})  
Tuberculosis: colliquativa, cutis, lichenoides, papulonecrotica, verrucosa cutis
- 017.1 Erythema nodosum with hypersensitivity reaction in tuberculosis  
Bazin's disease, Tuberculosis indurativa  
Erythema: induratum, nodosum (tuberculous)  
Excl. erythema nodosum NOS (695.2)
- 017.2 Peripheral lymph nodes (scrofula, scrofulous abscess, tuberculous adenitis)
- 017.3 Eye  
Tuberculous: chorioretinitis, disseminated (363.1), episcleritis (379.0),  
interstitial keratitis (370.5), iridocyclitis (chronic) (364.1),  
keratoconjunctivitis (phlyctenular) (370.3)
- 017.4 Ear  
Tuberculosis of ear (382.3), otitis media (382.3) (excl. Tuberculous mastoiditis {015.7})
- 017.5 Thyroid gland
- 017.6 Adrenal glands (255.4), Addison's disease (tuberculous)
- 017.7 Spleen
- 017.8 Other  
Tuberculosis of: endocardium [any valve] (424.-), oesophagus (530.1),  
myocardium (422.0), pericardium (420.0)

**018 Miliary Tuberculosis**

Incl.: tuberculosis: disseminated, generalized, miliary (whether of a single specified site, multiple sites or unspecified site), polyserositis

- 018.0 Acute
- 018.8 Other
- 018.9 Unspecified

**137 Late Effects of Tuberculosis**

- 137.0 Late effects of respiratory or unspecified tuberculosis
- 137.1 Late effects of central nervous system tuberculosis
- 137.2 Late effects of genitourinary tuberculosis
- 137.3 Late effects of tuberculosis of bones and joints
- 137.4 Late effects of tuberculosis of other specified organs

**502 Pneumoconiosis due to other silica or silicates  
(see Pulmonary Tuberculosis {011})**

Pneumoconiosis due to talc  
Silicotic fibrosis (massive) of lung  
Silicosis (simple) (complicated)

- A15 Respiratory tuberculosis, bacteriologically and histologically confirmed**  
*Includes:* infections due to *Mycobacterium tuberculosis* and *Mycobacterium bovis*  
*Excludes:* congenital tuberculosis (P37.0)  
 pneumoconiosis associated with tuberculosis (J65)  
 sequelae of tuberculosis (B90-)  
 silicotuberculosis (J65)
- A15.0 Tuberculosis of lung, confirmed by sputum microscopy with or without culture  
*Includes:*  
     **Tuberculous:**  
         bronchiectasis  
         fibrosis of lung  
         pneumonia  
         pneumothorax
- A15.1 Tuberculosis of lung, confirmed by culture only  
*Includes:* Conditions listed in A15.0, confirmed by culture only
- A15.2 Tuberculosis of lung, confirmed histologically  
*Includes:* Conditions listed in A15.0, confirmed histologically
- A15.3 Tuberculosis of lung, confirmed by unspecified means  
*Includes:* Conditions listed in A15.0, confirmed but unspecified whether bacteriologically or histologically
- A15.4 Tuberculosis of intrathoracic lymph nodes, confirmed bacteriologically and histologically  
*Includes:*  
     **Tuberculosis of lymph nodes:**  
         hilar  
         mediastinal  
         tracheobronchial  
*Excludes:* specified as primary (A15.7)
- A15.5 Tuberculosis of larynx, trachea and bronchus confirmed bacteriologically and histologically  
*Includes:*  
     **Tuberculosis of:**  
         bronchus  
         glottis  
         larynx  
         trachea

A15.6 Tuberculosis pleurisy, confirmed bacteriologically and histologically

*Includes:*

This disease state is characterized by pleuritis and pleural effusion, usually in an adolescent or young adult, but possibly in any age group, due to recent (within the preceding 24 months) infection with *Mycobacterium tuberculosis* complex. If another site of tuberculosis disease, such as CNS or disseminated/miliary disease, is believed to have occurred as a consequence of recent infection (within the preceding 24 months), it ought to be referred to as primary CNS (etc.) disease.

A15.7 Primary respiratory tuberculosis, confirmed bacteriologically and histologically

This is usually, but not always, in a child, and is due to infection within the preceding 24 months with *Mycobacterium tuberculosis* complex. It includes pulmonary (lung parenchyma) tuberculosis, as well as tuberculosis of the intrathoracic lymph nodes, larynx, trachea, bronchus, or nasopharyngeal sinuses.

A15.8 Other respiratory tuberculosis, confirmed bacteriologically and histologically

*Includes:* Mediastinal tuberculosis  
Nasopharyngeal tuberculosis

**Tuberculosis of:**

nose  
sinus [any nasal]

A15.9 Respiratory tuberculosis, unspecified, confirmed bacteriologically and histologically

**A16 Respiratory tuberculosis, not confirmed bacteriologically or histologically**

A16.0 Tuberculosis of lung, bacteriologically and histologically negative

*Includes:*

**Tuberculous:**

bronchiectasis  
fibrosis of lung  
pneumonia  
pneumothorax

A16.1 Tuberculosis of lung, bacteriological and histological examination not done

*Includes:* Conditions listed in A16.0, bacteriological and histological examination not done

A16.2 Tuberculosis of lung, without mention of bacteriological or histological confirmation  
Tuberculosis of lung

**Tuberculous:**

bronchiectasis  
fibrosis of lung  
pneumonia  
pneumothorax



NOS (without mention of bacteriological or histological confirmation)

A16.3 Tuberculosis of intrathoracic lymph nodes, without mention of bacteriological or histological confirmation

*Includes:*

**Tuberculosis of lymph nodes:**

hilar	}	NOS (without mention of bacteriological or histological confirmation)
intrathoracic		
mediastinal		
tracheobronchial		

*Excludes:* when specified as primary (A16.7)

A16.4 Tuberculosis of larynx, trachea and bronchus, without mention of bacteriological or histological confirmation

*Includes:*

**Tuberculosis of:**

bronchus	}	NOS (without mention of bacteriological or histological confirmation)
glottis		
larynx		
trachea		

A16.5 Tuberculous pleurisy, without mention of bacteriological or histological confirmation

This disease state is characterized by pleuritis and pleural effusion, usually in an adolescent or young adult, but possibly in any age group, due to recent (within the preceding 24 months) infection with Mycobacterium tuberculosis complex. If another site of tuberculosis disease, such as CNS or disseminated/miliary disease, is believed to have occurred as a consequence of recent infection (within the preceding 24 months), it ought to be referred to as primary CNS (etc) disease. *Excludes:* Primary respiratory tuberculosis, without mention of bacteriological or histological confirmation (A16.7)

A16.7 Primary respiratory tuberculosis without mention of bacteriological or histological confirmation

This is usually, but not always, in a child, and is due to infection within the preceding 24 months with Mycobacterium tuberculosis complex. It includes pulmonary (lung parenchyma) tuberculosis, as well as tuberculosis of the intrathoracic lymph nodes, larynx, trachea, bronchus, or nasopharyngeal sinuses. *Excludes:* Tuberculous pleurisy, without mention of bacteriological or histological confirmation (A16.5)

A16.8 Other respiratory tuberculosis, without mention of bacteriological or histological confirmation

Mediastinal tuberculosis	}	NOS (without mention of bacteriological or histological confirmation)
Nasopharyngeal tuberculosis		
<b>Tuberculosis of:</b>		
nose		
sinus [any part]		

A16.9 Respiratory tuberculosis unspecified, without mention of bacteriological or histological confirmation

*Includes:* Respiratory tuberculosis NOS  
Tuberculosis NOS

**A17+ Tuberculosis of nervous system**

A17.0+ Tuberculous meningitis (G01\*)

*Includes:* Tuberculosis of meninges (cerebral) (spinal)  
Tuberculous leptomeningitis

A17.1+ Meningeal tuberculoma (G07\*)

*Includes:* Tuberculoma of meninges

A17.8+ Other tuberculosis of nervous system

*Includes:*

**Tuberculoma of:**

brain (G07\*)

spinal cord (G07\*)

**Tuberculosis of:**

brain (G07\*)

spinal cord (G07\*)

**Tuberculous:**

abscess of brain (G07\*)

meningoencephalitis (G05.0\*)

myelitis (G05.0\*)

polyneuropathy (G63.0\*)

A17.9+ Tuberculosis of nervous system, unspecified (G99.8\*)

**A18 Tuberculosis of other organs**

A18.0+ Tuberculosis of bones and joints

*Includes:*

**Tuberculosis of:**

hip (M01.1\*)

knee (M01.1\*)

vertebral column (M49.0\*)

**Tuberculous:**

arthritis (M01.1\*)

mastoiditis (H75.0\*)

necrosis of bone (M90.0\*)

osteitis (M90.0\*)

osteomyelitis (M90.0\*)

synovitis (M68.0\*)

tenosynovitis (M68.0\*)

A18.1 Tuberculosis of genitourinary system

*Includes:*

**Tuberculosis of:**

bladder† (N33.0\*)

cervix† (N74.0\*)

kidney† (N29.1\*)

male genital organs† (N51.-\*)

ureter† (N29.1\*)

Tuberculous female pelvic inflammatory disease (N74.1\*)

A18.2 Tuberculous peripheral lymphadenopathy

*Includes:* Tuberculous adenitis

*Excludes:*

**Tuberculosis of lymph nodes:**

intrathoracic (A15.4, A16.3)

mesenteric and retroperitoneal (A18.3)

Tuberculous tracheobronchial adenopathy (A15.4, A16.3)

A18.3 Tuberculosis of intestines, peritoneum and mesenteric lymph nodes

*Includes:*

**Tuberculosis (of):**

anus and rectum† (K93.0\*)

intestine (large) (small)† (K93.0\*)

retroperitoneal (lymph nodes)

**Tuberculous:**

ascites

enteritis† (K93.0\*)

peritonitis† (K67.3\*)

A18.4 Tuberculosis of skin and subcutaneous tissue

*Includes:* Erythema induratum, tuberculous

Lupus:

exedens

vulgaris:

NOS

of eyelid† (H03.1\*)

Scrofuloderma

*Excludes:* lupus erythematosus (L93.-)

systemic (M32.-)



A18.5 Tuberculosis of eye

*Includes:*

**Tuberculous:**

- chorioretinitis+ (H32.0\*)
- episcleritis+ (H19.0\*)
- interstitial keratitis+ (H19.2)
- iridocyclitis+ (H22.0\*)
- keratoconjunctivitis (interstitial) (phlyctenular)+ (H19.2\*)

*Excludes:* lupus vulgaris of eyelid (A18.4)

A18.6 Tuberculosis of ear

*Includes:* Tuberculosis otitis media+ (H67.0\*)

*Excludes:* Tuberculous mastoiditis (A18.0+)

A18.7+ Tuberculosis of adrenal glands (E35.1\*)

*Includes:* Addison's disease, tuberculous

A18.8 Tuberculosis of other specified organs

*Includes:*

**Tuberculosis of:**

- endocardium+ (I39.8\*)
- myocardium+ (I41.0\*)
- oesophagus+ (K23.0\*)
- pericardium+ (I32.0\*)
- thyroid gland+ (E35.0\*)
- Tuberculous cerebral arteritis+ (I68.1\*)

**A19 Miliary Tuberculosis**

*Includes:*

**Tuberculosis:**

- disseminated
- generalized
- Tuberculous polyserositis

A19.0 Acute miliary tuberculosis of a single specified site

A19.1 Acute miliary tuberculosis of multiple sites

A19.2 Acute miliary tuberculosis, unspecified

A19.8 Other miliary tuberculosis

A19.9 Miliary Tuberculosis, unspecified

# APPENDIX III

## POPULATION ESTIMATES: 2003

Population estimates by gender and age group, Canada and provinces/territories: 2003

	Male													Female																	
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.			
< 1	168,958	2,295	642	4,425	3,570	37,125	66,128	7,021	6,006	20,128	20,767	169	300	382	160,772	2,309	721	4,186	3,515	35,067	62,913	6,679	5,716	19,115	19,670	153	356	372			
1 - 4	706,030	9,983	2,936	18,903	15,236	152,902	283,918	29,188	24,965	78,583	85,979	671	1,309	1,457	674,557	9,593	2,905	18,142	14,310	144,496	274,097	27,875	23,451	75,108	81,203	662	1,365	1,350			
5 - 14	2,087,408	31,247	9,453	58,080	46,262	469,186	827,489	83,837	72,754	222,416	257,199	2,185	3,806	3,494	1,987,896	29,459	8,905	55,791	43,625	447,289	792,084	79,947	68,925	209,731	243,139	2,112	3,574	3,315			
15 - 24	2,211,023	36,749	9,885	63,701	52,128	498,606	844,210	84,002	77,858	244,348	290,982	2,349	3,533	2,672	2,103,731	35,996	9,828	62,100	48,878	473,568	806,689	79,946	72,819	229,715	276,192	2,203	3,235	2,562			
25 - 34	2,205,120	32,341	8,193	59,345	49,956	510,058	867,165	78,791	61,049	246,694	283,229	1,922	3,806	2,571	2,151,969	33,741	8,615	60,682	49,667	484,925	859,414	75,020	59,830	228,391	283,568	2,144	3,475	2,497			
35 - 44	2,618,711	41,490	10,117	75,601	60,681	622,497	1,035,193	89,916	72,147	267,633	335,071	2,657	3,660	2,048	2,592,972	43,261	10,557	76,197	60,707	607,477	1,030,200	87,012	71,809	257,550	339,764	2,929	3,694	1,815			
45 - 54	2,332,249	42,008	9,997	70,867	58,344	578,520	864,480	81,200	69,896	232,890	317,017	2,822	2,873	1,335	2,363,249	42,958	10,486	72,706	59,337	588,198	885,781	81,587	68,242	225,385	322,110	2,650	2,643	1,166			
55 - 64	1,598,033	29,748	7,510	51,866	41,395	411,945	594,687	55,233	45,493	138,777	217,378	1,684	1,600	717	1,640,180	29,919	7,546	53,298	41,697	430,698	614,793	56,376	45,830	137,518	219,217	1,333	1,218	737			
65 - 74	1,038,884	17,729	4,827	32,596	25,004	255,271	398,354	36,846	33,829	86,859	145,919	721	631	298	1,152,419	18,789	5,203	36,024	28,009	299,843	441,893	40,987	37,179	92,235	150,935	598	529	195			
75 +	718,916	11,449	3,308	23,165	18,357	161,500	275,029	30,275	30,317	58,120	106,700	279	304	113	1,156,073	17,405	5,666	38,627	30,537	284,787	435,051	49,888	46,404	88,424	158,552	334	329	69			
<b>TOTAL</b>	<b>15,685,332</b>	<b>255,039</b>	<b>66,868</b>	<b>458,549</b>	<b>370,933</b>	<b>3,697,610</b>	<b>6,056,653</b>	<b>576,309</b>	<b>494,314</b>	<b>1,596,448</b>	<b>2,060,241</b>	<b>15,459</b>	<b>21,822</b>	<b>15,087</b>	<b>15,983,818</b>	<b>263,430</b>	<b>70,432</b>	<b>477,753</b>	<b>380,282</b>	<b>3,796,348</b>	<b>6,202,915</b>	<b>585,317</b>	<b>500,205</b>	<b>1,563,172</b>	<b>2,094,350</b>	<b>15,118</b>	<b>20,418</b>	<b>14,078</b>			
<b>TOTAL</b>																															
< 1	329,730	4,604	1,363	8,611	7,085	72,192	129,041	13,700	11,722	39,243	40,437	322	656	754																	
1 - 4	1,380,587	19,576	5,841	37,045	29,546	297,398	558,015	57,063	48,416	153,691	167,182	1,333	2,674	2,807																	
5 - 14	4,075,304	60,706	18,358	113,871	89,887	916,475	1,619,573	163,784	141,679	432,147	500,338	4,297	7,380	6,809																	
15 - 24	4,314,754	72,745	19,713	125,801	101,006	972,174	1,650,899	163,948	150,677	474,063	567,174	4,552	6,768	5,234																	
25 - 34	4,337,089	66,082	16,808	120,027	99,623	994,983	1,726,579	153,811	120,879	475,085	566,797	4,066	7,281	5,068																	
35 - 44	5,211,683	84,751	20,674	151,798	121,388	1,229,974	2,065,393	176,928	143,956	525,183	674,835	5,586	7,354	3,863																	
45 - 54	4,695,498	84,966	20,483	143,573	117,681	1,166,718	1,750,261	162,787	138,138	458,275	639,127	5,472	5,516	2,501																	
55 - 64	3,238,213	59,667	15,056	105,164	83,092	842,643	1,209,480	111,609	91,323	276,295	436,595	3,017	2,818	1,454																	
65 - 74	2,191,303	36,518	10,030	68,620	53,013	555,114	840,247	77,833	71,008	179,094	296,854	1,319	1,160	493																	
75 +	1,874,989	28,854	8,974	61,792	48,894	446,287	710,080	80,163	76,721	146,544	265,252	613	633	182																	
<b>TOTAL</b>	<b>31,669,150</b>	<b>518,469</b>	<b>137,300</b>	<b>936,302</b>	<b>751,215</b>	<b>7,493,958</b>	<b>12,259,568</b>	<b>1,161,626</b>	<b>994,519</b>	<b>3,159,620</b>	<b>4,154,591</b>	<b>30,377</b>	<b>42,240</b>	<b>29,165</b>																	

Source: Statistics Canada

# Population estimates by Canadian-born origin and foreign-born birthplace – Canada and provinces/territories: 2003

	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North	Y.T.	N.W.T.	Nvt.
<b>Canadian-born</b>															
North American Indian	741,675	9,547	1,371	15,350	13,862	72,512	166,921	104,823	97,357	102,725	137,488	19,719	6,722	12,902	95
Status Indian*	730,586	-	-	-	28,088	67,184	167,140	117,128	115,973	93,347	117,585	24,141	-	-	-
Non-status	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inuit	49,840	4,974	31	409	177	10,256	1,686	388	259	1,167	923	29,570	186	4,586	24,798
Metis	315,098	5,906	238	3,280	4,510	16,831	52,641	60,925	47,136	71,407	47,545	4,679	581	4,069	29
<b>Total Aboriginal**</b>	<b>1,106,613</b>	<b>20,427</b>	<b>1,640</b>	<b>19,039</b>	<b>18,549</b>	<b>99,599</b>	<b>221,248</b>	<b>166,136</b>	<b>144,752</b>	<b>175,299</b>	<b>185,956</b>	<b>53,968</b>			
Non-Aboriginal†	23,996,960	486,657	130,590	862,813	702,720	6,515,235	8,391,285	840,338	792,582	2,465,522	2,768,513	40,705	26,970	39,092	28,611
<b>Total Canadian-born</b>	<b>25,103,573</b>	<b>507,084</b>	<b>132,230</b>	<b>881,852</b>	<b>721,269</b>	<b>6,614,834</b>	<b>8,612,533</b>	<b>1,006,474</b>	<b>937,334</b>	<b>2,640,821</b>	<b>2,954,469</b>	<b>94,673</b>	<b>26,970</b>	<b>39,092</b>	<b>28,611</b>
<b>Foreign-born‡</b>															
AFR High	176,816	429	46	1,197	774	24,290	92,885	4,417	2,493	20,994	29,045	246	80	134	32
AFR Low	84,455	93	34	396	514	42,657	31,821	1,376	677	3,743	3,080	64	16	39	9
AMR	727,455	309	186	3,144	1,369	152,911	462,953	20,289	3,295	37,313	45,292	394	178	165	51
EEUR	291,620	446	35	1,157	352	51,716	176,375	9,499	3,329	19,798	28,728	185	70	105	10
EMR	574,349	639	271	6,306	1,363	133,352	343,396	4,883	3,315	33,811	46,816	197	46	132	19
EME + CEUR	2,654,499	7,340	4,212	34,968	21,833	327,466	1,458,800	69,087	30,646	231,977	463,482	4,688	2,680	1,650	358
SEAR	586,742	869	70	2,089	994	42,713	369,811	7,821	2,271	36,430	123,424	250	132	107	11
WPR	1,469,641	1,260	216	5,193	2,747	104,019	710,994	37,780	11,159	134,733	460,255	1,285	405	816	64
<b>Total foreign-born</b>	<b>6,565,577</b>	<b>11,385</b>	<b>5,070</b>	<b>54,450</b>	<b>29,946</b>	<b>879,124</b>	<b>3,647,035</b>	<b>155,152</b>	<b>57,185</b>	<b>518,799</b>	<b>1,200,122</b>	<b>7,309</b>	<b>3,607</b>	<b>3,148</b>	<b>554</b>
<b>Total population§</b>	<b>31,669,150</b>	<b>518,469</b>	<b>137,300</b>	<b>936,302</b>	<b>751,215</b>	<b>7,493,958</b>	<b>12,259,568</b>	<b>1,161,626</b>	<b>994,519</b>	<b>3,159,620</b>	<b>4,154,591</b>	<b>101,982</b>	<b>30,577</b>	<b>42,240</b>	<b>29,165</b>

\* Source: INAC, Registered Indian Population by Sex and Residence 2003. Available at: [http://www.aicm-inac.gc.ca/pr/sts/rip/rip03\\_e.pdf](http://www.aicm-inac.gc.ca/pr/sts/rip/rip03_e.pdf)

\*\* Source: Statistics Canada: Projections of the Aboriginal populations, Canada, provinces and territories 2001 to 2017 Demography Division, Statistics Canada Catalogue No. 91-547-XIE

† Calculated: Non-Aboriginal = Total Population - Total Aboriginal - Total Foreign-born

‡ Source: Statistics Canada: Demography Division, Custom Product

§ Source: Statistics Canada, Demography Division, Demographic, Estimates Section, Population estimates 0-90+ July Canada - Provinces 1971-2005, updated November 22 2005.

# APPENDIX IV

## WHO ESTIMATED INCIDENCE OF TB, 22 HIGH-BURDEN COUNTRIES: 2003

COUNTRY	POPULATION (1000s)	NUMBER ESTIMATED				CUMULATIVE INCIDENCE (%) (REGIONAL PROPORTION OF GLOBAL TOTAL)
		ALL CASES		SMEAR-POSITIVE CASES		
		NUMBER (1000s)	RATE PER 100,000	NUMBER (1000s)	RATE PER 100,000	
1 India	1,065,462	1,788	168	798	75	20
2 China	1,304,196	1,334	102	600	46	35
3 Indonesia	219,883	627	285	282	128	42
4 Nigeria	124,009	363	293	156	126	46
5 Bangladesh	146,736	361	246	162	110	50
6 Pakistan	153,578	278	181	125	81	53
7 Ethiopia	70,678	252	357	109	154	56
8 South Africa	45,026	242	537	98	218	59
9 Philippines	79,999	237	296	107	134	62
10 Kenya	31,987	195	610	84	263	64
11 DR Congo	52,771	195	370	85	161	66
12 Russian Federation	143,246	161	112	72	50	68
13 Viet Nam	81,377	145	178	65	80	70
14 UR Tanzania	36,977	137	371	58	157	72
15 Brazil	178,470	110	62	49	27	73
16 Uganda	25,827	106	410	46	178	74
17 Thailand	62,833	89	142	40	64	75
18 Mozambique	18,863	86	456	36	191	76
19 Zibabse	12,891	85	659	34	264	77
20 Myanmar	49,485	85	172	38	77	78
21 Afghanistan	23,897	80	335	36	151	79
22 Cambodia	14,144	72	509	32	226	80
<b>Total, high-burden countries</b>	<b>3,942,335</b>	<b>7,028</b>	<b>178</b>	<b>3,112</b>	<b>79</b>	<b>80</b>
Africa	687,405	2,372	345	1,013	147	26.9
Americas	867,768	370	43	165	19	4.2
East Mediterranean	518,063	634	122	285	55	7.2
Europe	878,902	439	50	196	22	5.0
South East Asia	1,614,648	3,062	190	1,370	85	34.8
Western Pacific	1,732,104	1,933	112	868	50	21.9
<b>Global total</b>	<b>6,298,890</b>	<b>8,810</b>	<b>140</b>	<b>3,897</b>	<b>62</b>	<b>100.0</b>

Source: World Health Organization. *Global Tuberculosis Control: Surveillance, Planning, Financing*. WHO Report 2005  
ISBN 92 4 156291 9.

# APPENDIX V

## STOP-TB PARTNERSHIP

### TB EPIDEMIOLOGICAL REGIONS

#### AND MEMBER COUNTRIES<sup>12</sup>

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Africa, High HIV Prevalence (AFR-High)	Africa, low HIV Prevalence (AFR-Low)
Botswana	Algeria
Burundi	Angola
Cameroon	Benin
Central African Republic	Burkina Faso
Congo	Cape Verde
Côte d'Ivoire	Chad
Democratic Republic of Congo	Comoros
Ethiopia	Equatorial Guinea
Gabon	Eritrea
Kenya	Gambia
Malawi	Ghana
Mozambique	Guinea
Namibia	Guinea-Bissau
Nigeria	Liberia
Lesotho	Madagascar
Rwanda	Mali
South Africa	Mauritania
Swaziland	Mauritius
Uganda	Niger
United Republic of Tanzania	Sao Tome & Principe
Zambia	Senegal
Zimbabwe	Seychelles
	Sierra Leone
	Togo

<sup>12</sup> Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006-2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

**American region (AMR) – Latin American countries (LAC)**

Anguilla  
 Antigua & Barbuda  
 Argentina  
 Bahamas  
 Barbados  
 Belize  
 Bermuda  
 Bolivia  
 Brazil  
 British Virgin Islands  
 Cayman Islands  
 Chile  
 Colombia  
 Costa Rica  
 Cuba

Dominica  
 Dominican Republic  
 Ecuador  
 El Salvador Paraguay  
 Peru  
 Puerto Rico  
 Saint Kitts and Nevis  
 Saint Lucia  
 St Vincent and the  
 Grenadines  
 Suriname  
 Trinidad and Tobago  
 Turks & Caicos Islands  
 Uruguay  
 US Virgin Islands  
 Venezuela

**Eastern Europe (EEUR)**

Armenia  
 Azerbaijan  
 Belarus  
 Bulgaria  
 Estonia  
 Georgia  
 Kazakhstan  
 Kyrgyzstan  
 Latvia  
 Lithuania  
 Republic of Moldova  
 Romania  
 Russian Federation  
 Tajikistan  
 Turkey  
 Turkmenistan  
 Ukraine  
 Uzbekistan

**Eastern Mediterranean (EMR)**

Afghanistan  
 Bahrain  
 Djibouti  
 Egypt  
 Islamic Republic of Iran  
 Iraq  
 Jordan  
 Kuwait  
 Lebanon  
 Libyan Arab Jamahiriya  
 Morocco  
 Oman  
 Pakistan  
 Qatar  
 Saudi Arabia  
 Somalia  
 Sudan  
 Syrian Arab Republic  
 Tunisia  
 United Arab Emirates  
 West Bank & Gaza Strip  
 Yemen

Established Market Economies (EME)	
Andorra	Japan
Australia	Luxembourg
Austria	Malta
Belgium	Monaco
Canada	Netherlands
Czech Republic	New Zealand
Denmark	Norway
Finland	Portugal
France	San Marino
Germany	Singapore
Greece	Spain
Iceland	Sweden
Ireland	Switzerland
Israel	United Kingdom
Italy	USA

Central Europe (CEUR)
Albania
Bosnia and Herzegovina
Croatia
Cyprus
Hungary
Poland
Serbia and Montenegro
Slovakia
Slovenia
The Former Yugoslav, Republic of

South-East Asia (SEAR)
Bangladesh
Bhutan
Democratic People's Republic of Korea
India
Indonesia
Maldives
Myanmar
Nepal
Sri Lanka
Thailand
Timor-Leste

**Western Pacific (WPR)**

American Samoa	Nauru
Brunei Darussalam	New Caledonia
Cambodia	Niue
China	Northern Mariana Islands
China, Hong Kong SAR	Palau
China, Macao SAR	Papua New Guinea
Cook Islands	Philippines
Fiji	Republic of Korea
French Polynesia	Samoa
Guam	Solomon Islands
Kiribati	Tokelau
Lao People's Democratic Republic	Tonga
Malaysia	Tuvalu
Marshall Islands	Vanuatu
Micronesia	Viet Nam
Mongolia	Wallis & Futuna Islands



**APPENDIX VI**  
**WHO REPORTING FORM FOR 2003 CASES**

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**1. Identification**

A **Country**

B **Date**

C **Name** National TB control programme manager or equivalent.  Person filling out this form (if different from name at left)

D **Functional Title**

E **Address**

F **Telephone**

G **Fax**

H **E-mail**

Please send your completed form to your local/regional WHO office.

This form is a tool for WHO to collect data appropriate for analyses at regional/global level from some 200 diverse countries. It does not constitute a recommended template for national programmes. Respondents are referred to WHO guidelines for templates.

**2. Components of TB control in 2003**

Please take care that your answers correspond to the situation in 2003. (We welcome information on newer developments under 'Remarks' on last page)

*Response for questions A-B: Circle one (NA = not applicable)*

A **Did you have a national TB control manual (or guidelines for TB diagnosis and treatment) in 2003?**  
(If Yes, please provide a copy to WHO, if you have not already done so.)

No	Yes
----	-----

B **Did the principle national professional medical society in your country recognize and advocate standardized TB regimens, with standard duration of treatment leading to standardized outcome definitions, as of 2003?**

No	Yes	NA
----	-----	----

**Technical components of DOTS in 2003**

*Responses for questions C-F: Circle one (SOME means "in some units", ALL means "in all units")*

	DOTS units		Non-DOTS units		
C <b>Was sputum microscopy routinely used to diagnosis suspected pulmonary cases?</b>	No	Yes	No	Some	All
D <b>Was standardized, short-course chemotherapy (less than 9 months) used routinely to treat sputum smear-positive cases?</b>	No	Yes	No	Some	All
E <b>Was direct observation of treatment used routinely -- at least during the initial phase (2-3 months) of treatment?</b>	No	Yes	No	Some	All
F <b>Were TREATMENT outcomes of ALL smear-positive patients monitored, analyzed by cohort, and reported to the next supervisory level?</b>	No	Yes	No	Some	All

*Responses for questions G, H: absolute numbers; Question I: Yes or No; Question J: percentage.*

G **How many basic administrative/operational health units were there in 2003?**

H **How many of these units (2.G) were considered as "DOTS" units at the end of 2003?**

I **Do you have additional criteria (beyond implementation of the technical components, above) that must be met for an operational unit in your country to become a "DOTS" unit (e.g., local political commitment, training requirements)?** (If "Yes", please attach this list of criteria, or mention these under 'Remarks'.)

No	Yes
----	-----

J **What proportion of the country's population was attributed to administrative/operational units defined as DOTS units in your country in 2003?** (Note: Only this rough administrative apportioning is needed. It may not equate with true "access" to DOTS. If you have additional information on "access" to DOTS, you may share these data under 'Remarks' in addition to answering this question. If a unit became a DOTS unit in October of 2003, then use only 1/4 of its population in your calculation; if in July, then use 1/2 of its population, etc.)  %

**3. HIV-related activities among TB patients in 2003**

A Please provide below the best data for prevalence of HIV in TB patients in 2003 (if any), and describe the source type (e.g., sentinel surveillance based on anonymous testing data from routine HIV testing of TB patients) and the scope and methodology (e.g., 100% sampling of TB patients in selected metropolitan TB clinics).

Responses for questions C, D, E, H: enter a number. For questions B, E, F: circle appropriate response.

B Did you implement (even if only partially) a national policy of offering HIV testing and counselling to all TB patients in 2003? No      Yes

C How many "operational units" (see question 2G) had TB diagnostic and treatment facilities that routinely offered HIV testing and counselling to all TB patients in 2003?  
If C=0, skip to question E: [ ]

D - How many TB patients were tested for HIV in 2003 in the facilities counted in question 3.C? [ ]

E - Were HIV positive TB patients routinely assessed (or referred for assessment) for eligibility to commence antiretroviral therapy in 2003?  
- If E="No", skip to next page. No    Yes    Don't Know

F Is assessment for ART eligibility carried out by the TB programme, the HIV programme, some combination of the two, or other? (Feel free to provide more description in 'Remarks'.) TB    HIV    Combination    Other

G Please indicate how many HIV positive TB patients were assessed for eligibility for ART in 2003. [ ]

H Please indicate how many HIV positive TB patients were assessed AND started antiretroviral treatment in 2003. [ ]

**4. TB Notifications for 2003 (absolute numbers)**

A Number of TB cases in 2003, as per your national statistics [ ]

Number of these cases, by strategy, that are

	DOTS	Non-DOTS
B New pulmonary smear-positive	[ ]	[ ]
C New pulmonary smear-negative	[ ]	[ ]
D New pulmonary smear unknown	[ ]	[ ]
E New extra-pulmonary	[ ]	[ ]
F Relapse	[ ]	[ ]
G Treatment after Failure	[ ]	[ ]
H Treatment after Default	[ ]	[ ]
I Other cases not in lines B-H.	[ ]	[ ]
J New pulmonary lab-confirmed cases	[ ]	[ ]

Please list all potential sources of data that were NOT represented in line A (e.g., pulmonology clinics, private practitioners, hospitals, prisons, other government institutions [specify]).

Please describe completeness of the data in line A (i.e., were certain district quarterly reports expected but not received)?

Notes:  
Strategy is attributed to operational units, not sub-sets of cases treated within those units. If a unit is considered a DOTS units, then all cases from that unit should be reported as DOTS cases.  
If lines B-I (both DOTS and non-DOTS) do not add up to the number in line A, please explain in Remarks.  
"Other" cases (line I) may include any cases that do not fit into above categories (e.g., history of previous disease/treatment unknown, retreatment case that is smear negative)  
In line J, "lab-confirmed" includes smear-positive cases plus any cases confirmed by additional laboratory methods.

Do the data on this page include data from any dependencies or overseas territories?

No      Yes

If yes, please describe under 'Remarks.'

5. Notifications for 2003, continued (absolute numbers):

**Age and sex of new pulmonary smear-positive TB cases**

		0-14	15-24	25-34	35-44	45-54	55-64	65+	TOTAL
<b>DOTS</b>									
A	Male								
B	Female								
<b>Non-DOTS</b>									
C	Male								
D	Female								

If data are based on less than a full year's data, please note this in 'Remarks.'

If you have data by age and sex that do not fit this framework (e.g., different age groups or data based on all new cases, not just smear-positive), then you can provide the data that you have on the "Remarks" page.

**6. Treatment outcomes for cases registered in 2002 (absolute numbers)**

	DOTS				non-DOTS
	New pulmonary smear-positive	Relapse	Treat-after-Failure	Treat-after-Default	New pulmonary smear-positive
Z Cases included in cohort					
A Cured					
B Completed					
C Died					
D Failed					
E Defaulted					
F Transferred out, not evaluated					

If sum of lines A-F does not equal line Z, please note any known reasons (e.g., missing reports) under "Remarks".

G What is/are the mechanism(s) used for a registration unit to determine outcomes of TB patients who have transferred out? List any/all of the following: None, Quarterly meetings of unit coordinators (exchange info); Telephone; Mail; Linkages performed at a higher admin level; OtherR (specify)

**Notes**

If culture is routinely available throughout the country, then you should instead use these columns to report outcomes of the cohort of laboratory-confirmed cases, where the outcome is determined by the best laboratory evidence available for each case. Indicate this in Remarks.

If treatment outcomes for retreatment cases are compiled together and cannot be separated, then please provide these outcome results under 'Remarks'.

If non-DOTS treatment outcomes are available but not for new smear-positive cases specifically, please provide what data are available and make a note about the types of cases included.

7. Financial information - budget data

FISCAL YEAR 2004

(your fiscal year starting during the calendar year 2004)

1. Beginning of your fiscal year 2004 (day, month, year)

2. Expected number of new smear-positive patients to be treated in 2004

3. Expected number of new smear-negative/extra-pulmonary patients to be treated in 2004

Please give amounts for budget, funding, and gap in US dollar equivalent, in millions (example: '78' for US\$ 78 million or 0.1 for US\$ 100,000)

TOTAL BUDGET REQUIRED <sup>d</sup> (US\$ millions)	EXPECTED Funding				GAP <sup>e</sup>
	Government <sup>b</sup>	Loans <sup>c</sup>	Grants (excluding GFATM) <sup>f</sup>	GFATM <sup>g</sup>	
4. TB drugs: first-line					
5. TB drugs: second-line (for MDR-TB)					
6. Staff working exclusively for TB control (central unit staff and subnational TB coordinators)					
7. Initiatives to increase case detection and cure rates					
8. TB/HIV collaborative activities					
9. Buildings, equipment (vehicles, lab / office equip. etc.)					
10. All other budget lines for TB					
11. TOTAL					

FISCAL YEAR 2005

(your fiscal year starting during the calendar year 2005)

1. Beginning of your fiscal year 2005 (day, month, year)

2. Expected number of new smear-positive patients to be treated in 2005

3. Expected number of new smear negative/extra-pulmonary patients to be treated in 2005

Please give amounts for budget, funding, and gap in US dollar equivalent, in millions (example: '78' for US\$ 78 million or 0.1 for US\$ 100,000)

TOTAL BUDGET REQUIRED <sup>d</sup> (US\$ millions)	EXPECTED Funding (if available)				GAP <sup>e</sup>
	Government <sup>b</sup>	Loans <sup>c</sup>	Grants (excluding GFATM) <sup>f</sup>	GFATM <sup>g</sup>	
4. TB drugs: first-line					
5. TB drugs: second-line (for MDR-TB)					
6. Staff working exclusively for TB control (central unit staff and subnational TB coordinators)					
7. Initiatives to increase case detection and cure rates					
8. TB/HIV collaborative activities					
9. Buildings, equipment (vehicles, lab / office equip. etc.)					
10. All other budget lines for TB					
11. TOTAL					

PLEASE SEE EXPLANATORY NOTES ON PAGE 9. Contact the following people for assistance if required:

Pilar Ramon\_Pardo ramonpp@paho.org (for AMRO), Katherine Floyd: floydk@who.int (for EURO, SEARO, WPRO), Holger Sawert: sawerth@emro.who.int (for EMRO) and Lisa Véron: veroni@who.int (for AFRO).

8. Financial information - utilization of health services and expenditure data

12. Typical number of visits to a health facility required for one new smear-positive patient after diagnosis is made

13. Typical number of visits to a health facility required for a new smear negative/extra-pulmonary patient after diagnosis is made

14. Estimated percentage of new smear-positive patients that are hospitalized

 %

15. Estimated percentage of new smear negative/extra-pulmonary patients that are hospitalized

 %

16. Estimated average duration of stay for new smear-positive patients if hospitalized (days)

17. Estimated average duration of stay for new smear negative/extra-pulmonary patients if hospitalized (days)

18. Number of hospital beds used exclusively for TB

FISCAL YEAR 2003

(your fiscal year starting during the calendar year 2003)

Please give amounts spent and received in US dollar equivalent, in millions (example: '78' for US \$78 million)

ACTUAL EXPENDITURE <sup>g</sup> (US\$ millions)	RECEIVED Funding			
	Government <sup>b</sup>	Loans <sup>c</sup>	Grants (excluding GFATM) <sup>f</sup>	GFATM <sup>g</sup>
19. TB drugs: first-line				
20. TB drugs: second-line (for MDR-TB)				
21. Staff working exclusively for TB control (central unit staff and subnational TB coordinators)				
22. Initiatives to increase case detection and cure rates				
23. TB/HIV collaborative activities				
24. Buildings, equipment (vehicles, lab / office equip. etc.)				
25. All other budget lines for TB				
26. TOTAL				

PLEASE SEE EXPLANATORY NOTES ON PAGE 9. Contact the following people for assistance if required:

Pilar Ramon\_Pardo ramonpp@paho.org (for AMRO), Katherine Floyd: floydk@who.int (for EURO, SEARO, WPRO), Holger Sawert: sawerth@emro.who.int (for EMRO) and Lisa Véron: veroni@who.int (for AFRO).

WHO TB data collection form for strategies and notifications in 2003, treatment outcomes of cases registered in 2002, and financial information for fiscal years 2003 and beyond.

### 9. Explanations for financial information

Please remember that funding for TB control can only be improved if some attempt to describe the financial situation is made, even if data availability is limited. If the central NTP office has no information on the exact amounts that peripheral governments make available for TB control, please try to estimate.

For all questions, please indicate "NA" or "not applicable" if the intervention asked for (e.g., hospitalization) is not used in your country, and indicate "DK" or "Don't know" if you do not have the information required to answer the question. Please do not leave any field blank.

1	The date of the beginning of your fiscal year (between 1 January and 31 December of the year indicated)
2	The number of patients you expect to detect and treat -- new smear-positive cases in all areas (DOTS and non-DOTS). It does NOT mean the total estimated number of cases in your country.
3	The number of patients that you expect to detect and treat -- new smear-negative and extra-pulmonary cases in all areas (DOTS and non-DOTS). It does NOT mean the total estimated number of cases in your country.
4	Budget for anti-TB drugs, excluding drugs to treat multi-drug resistant (MDR) TB. If drugs are provided by the Global Drug Facility (GDF), please include an estimate of the value of these drugs.
5	Budget for anti-TB drugs for multi-drug resistant (MDR) TB only, including drugs procured through the Green Light Committee (GLC).
6	Staff cost for staff working ONLY on TB activities at central and peripheral levels (for example provincial TB coordinators, district TB coordinators, etc). Do NOT include, for example, primary health care nurses working on several diseases, including TB. The total per category can be estimated as the average annual salary for each staff category x number of staff in that category. Please report the total for ALL categories.
7	Refers to activities that aim to increase case detection and cure rates; possible examples are social mobilization campaigns, activities to engage the private sector (for example PPM-DOTS projects), incentives/enablers for providers or patients, community TB care, strengthening of diagnostic services and supervision, etc. Include any staff not already covered in number 6.
8	Activities involving collaboration between TB and HIV programmes aimed at reducing the impact of HIV-related TB. These include TB/HIV coordinating bodies, joint TB/HIV training and planning, HIV testing for TB patients, HIV surveillance among TB patients, TB screening for people living with HIV/AIDS, isoniazid preventive therapy, joint TB/HIV information/education/communication, antiretroviral treatment for TB patients, etc. Does NOT include staff dedicated to TB and partially managing TB/HIV activities already accounted for under number 6. For clarifications, please see the WHO TB/HIV interim policy or the Monitoring and Evaluation guide.
9	Refers to all equipment, such as vehicles, microscopes, office equipment, etc. It does NOT refer to consumables (such as laboratory supplies), nor to investments related to and already accounted for in numbers 7 and 8.
12	The average number of visits per smear-positive patient to any health facility during TB treatment, for example for observed treatment, collection of drugs, smear monitoring, etc. after the patient has been diagnosed with TB, in view of your treatment guidelines. For example, if directly observed treatment is provided daily in the intensive phase at clinics and, in the continuation phase 4 visits are required (one per month for collection of drugs), the total would be $60+4=64$
13	The average number of visits per smear-negative and extra-pulmonary TB patient to any health facility during TB treatment, for example for DOT, collection of drugs, smear monitoring, etc. after the patient has been diagnosed with TB in view of your treatment guidelines.
14	The approximate percentage of smear-positive patients hospitalised for TB (for any duration of stay), in view of your treatment guidelines. For example, if your policy is to admit all TB patients for 2 months, the figure will be 100%. If unsure, please give a range.
15	The approximate percentage of smear negative or extra-pulmonary patients hospitalised for TB (for any duration of stay), in view of your treatment guidelines. If unsure, please give a range.
16	If a smear-positive patient is hospitalized for TB, the average number of days he/she spends in hospital.
17	If a smear-negative or extra-pulmonary patient is hospitalized for TB, the average number of days he/she spends in hospital.
18	Estimated number of beds in TB hospitals and in TB wards of other hospitals.
19-24	See explanations for items 4-9. above.
a	The total budget required should be in line with your annual plan of activity. Indicate the total amount required to carry out all activities and NOT the amount you expect to receive.
b	Include funding from both the central and peripheral government sources (provinces, districts, etc.).
c	All loans for TB or amount for TB in an overall health sector-wide loan.
d	All grants, excluding GFATM grants. The amount should be for the relevant fiscal year and not the total amount of the grant.
e	Grants awarded by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). The amount for the relevant fiscal year only and NOT the total amount of the grant.
f	The amount in this column should equal the "Total budget required" column MINUS the total of all expected funding columns (i.e. government, loans, grants excluding GFATM, GFATM grants, other).
g	During your last fiscal year, the funds that were actually received and spent. The total in this column should equal h+i+j+k.

### 8. Remarks

*Remarks may include: information on completeness of data, explanations for inconsistencies in data, more detailed data, revision of data reported in previous years, and further explanation of financial data.*

Thank you for completing the WHO annual data collection form. Please return to your local/regional WHO office.

When you submit your responses, please also attach the latest version of your TB register (or TB case notification card) and a set of your quarterly reporting forms (or, if all data individualized at all levels, any other relevant format for standard analytic outputs), if you have not recently supplied these to WHO.

# APPENDIX VII

## CANADA – CASE AND TREATMENT OUTCOME REPORTING FORMS

### Active Tuberculosis Report Form – New and Relapsed Cases

Serial No. \_\_\_\_\_

For Internal Use Only		CONFIDENTIAL WHEN COMPLETED		Date Form Completed	
Date received at TBPC		TBPC Number		Year Month Day	
Province/Territory/Patient ID		Register case number		Date of birth	
1. Reporting province/territory		2. Register case number		4. Date of birth	
5. Sex		3. Unique Identifier (if name not provided)		Year Month Day	
6. First Middle Last		7. City/Town/Village		County and Health Unit	
Patient Initials and Usual Residence		Postal Code		Geo Codes	
8. Origin		9. Date of diagnosis		10. Diagnosis	
11. Check all that apply:		12. Case Criteria		13. Antibiotic resistance to initial positive culture	
15. Initial Drugs Prescribed		16. Case Finding		17. First episode of TB	
18. Patient died before completion of therapy		19. HIV status			

HC/SC 4368E (01-2002)

DISPONIBLE EN FRANÇAIS





Health Canada Santé Canada

CONFIDENTIAL WHEN COMPLETED

Serial No. \_\_\_\_\_

**Treatment Outcome of a New Active or Relapsed Tuberculosis Case**

See reverse for Guidelines for Completing the Treatment Outcome form.

<p><b>For Internal Use Only</b></p> <p>Date received at TBPC: Year Month Day TBPC Number</p>		<p>Tuberculosis Prevention and Control (TBPC) Centre for Infectious Disease Prevention and Control Population and Public Health Branch Room 0108B, Brooke Claxton Building Internal Address Locator: 0900B1 Tunney's Pasture, Ottawa, ON K1A 0L2</p>		<p><b>Date Form Completed</b></p> <p>Year Month Day</p>	
1. Reporting province / territory:	2. Register case number:	3. Unique Identifier: (if name not provided)	4. Date of birth: Year Month Day	5. Sex: 1 M 2 F	6. Patient Initials First Middle Last
7. Date of diagnosis: Year Month Day	8. Date initial treatment started: Year Month Day	9. Initial drugs prescribed (list all that apply): 1 <input type="checkbox"/> INH 4 <input type="checkbox"/> RMP 8 <input type="checkbox"/> Other (specify) 9 <input type="checkbox"/> Unknown 2 <input type="checkbox"/> SM 5 <input type="checkbox"/> PZA 3 <input type="checkbox"/> EMB 7 <input type="checkbox"/> No drugs prescribed			
10. If transfer from original reporting province/territory, please state treating province:	11. Register case number: (if different from 2 above)	12. Unique identifier: (if different from 3 above)	13. Date treatment started: Year Month Day		
14. Last day of this treatment: Year Month Day	16. What was the treatment outcome? (Check one only). 1 <input type="checkbox"/> Cure - negative culture at completion of treatment. 2 <input type="checkbox"/> Treatment completed - without culture at end of treatment. 3 <input type="checkbox"/> Death during treatment → 1 <input type="checkbox"/> TB was the cause of death Date of Death: Year Month Day 2 <input type="checkbox"/> TB contributed to death but was not the underlying cause 3 <input type="checkbox"/> TB did not contribute to death 4 <input type="checkbox"/> Transferred to new jurisdiction - outcome of treatment unknown (specify new jurisdiction) 5 <input type="checkbox"/> Failure - culture positive at 5 months or more. 6 <input type="checkbox"/> Absconded (lost to follow-up before completion of 80% of doses, 8 months after treatment started). 7 <input type="checkbox"/> Treatment Ongoing 8 <input type="checkbox"/> Other (specify) 9 <input type="checkbox"/> Unknown				
15. Did resistance develop during treatment? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No If yes, please check drug(s) (check all that apply): 1 <input type="checkbox"/> INH 8 <input type="checkbox"/> Other (specify) 2 <input type="checkbox"/> SM 3 <input type="checkbox"/> EMB 4 <input type="checkbox"/> RMP 9 <input type="checkbox"/> Unknown 5 <input type="checkbox"/> PZA					
17. Treatment regimen (for drugs taken > 1 month) (check all that apply): 1 <input type="checkbox"/> INH 2 <input type="checkbox"/> SM 3 <input type="checkbox"/> EMB 4 <input type="checkbox"/> RMP 5 <input type="checkbox"/> PZA Duration (months)           8 <input type="checkbox"/> Other (specify) 8 <input type="checkbox"/> Other (specify) Duration (months)     9 <input type="checkbox"/> Unknown			18. Major mode of treatment: 1 <input type="checkbox"/> DOT (daily or intermittent) 2 <input type="checkbox"/> Daily, self-administered 8 <input type="checkbox"/> Other (specify) 9 <input type="checkbox"/> Unknown		
20. Last sputum smear (respiratory cases only): 1 <input type="checkbox"/> Positive 2 <input type="checkbox"/> Negative Date of last smear: Year Month Day 3 <input type="checkbox"/> Not done 9 <input type="checkbox"/> Unknown			21. Last sputum culture (respiratory cases only): 1 <input type="checkbox"/> Positive 2 <input type="checkbox"/> Negative Date of last culture: Year Month Day 3 <input type="checkbox"/> Not done 9 <input type="checkbox"/> Unknown		
22. Most recent chest x-ray results (respiratory cases only): 1 <input type="checkbox"/> Better than initial x-rays 2 <input type="checkbox"/> Worse than initial x-rays 3 <input type="checkbox"/> Stable 4 <input type="checkbox"/> Not done 9 <input type="checkbox"/> Unknown			23. Date of most recent x-ray: Year Month Day		

# APPENDIX VIII

## THE CANADIAN TUBERCULOSIS COMMITTEE

### 2006

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#### PROVINCIAL/TERRITORIAL TB CONTROL PROGRAM REPRESENTATIVES

**Alberta**

Dr. Richard Long

**New Brunswick**

Dr. Holy Akwar

**Northwest Territories**

Ms. Cheryl Case

**Prince Edward Island**

Dr. Lamont Sweet

**Yukon**

Ms. Colleen Hemsley

**British Columbia**

Dr. Kevin Elwood

**Newfoundland and Labrador**

Dr. Faith Stratton

**Nunavut**

Ms. Elaine Randall

**Québec**

Dr. Paul Rivest

**Manitoba**

Dr. Pamela Orr

**Nova Scotia**

Dr. Assaad Al-Azem

**Ontario**

Ms. Joy Marshall

**Saskatchewan**

Dr. Vernon Hoepfner

#### ASSOCIATION OF MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASE

**Liaison Member**

Dr. Wendy Wobeser

#### CANADIAN LUNG ASSOCIATION

Dr. Brian Graham

#### CANADIAN PUBLIC HEALTH LABORATORY NETWORK

Dr. Amin Kabani

#### CITIZENSHIP AND IMMIGRATION CANADA

Dr. Lise Scott

#### CORRECTIONAL SERVICE CANADA

Ms. Samar Sarkesh

#### FIRST NATIONS AND INUIT HEALTH BRANCH, HEALTH CANADA

Dr. Marcus Lem

#### NATIONAL REFERENCE CENTRE FOR MYCOBACTERIOLOGY, NATIONAL MICROBIOLOGY LABORATORY, PUBLIC HEALTH AGENCY OF CANADA

Ms. Joyce Wolfe

#### STOP-TB CANADA

Dr. Brian Graham

#### TUBERCULOSIS PREVENTION AND CONTROL, PUBLIC HEALTH AGENCY OF CANADA

Dr. Edward Ellis