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# TUBERCULOSIS IN CANADA



1999

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## **ACKNOWLEDGEMENT**

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**TUBERCULOSIS**

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**IN CANADA**

**1999**



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# TUBERCULOSIS IN CANADIAN-BORN ABORIGINAL PEOPLES

## BACKGROUND

TB disease rates have fallen dramatically in Canada and other developed countries since the beginning of the 20th century. This significant reduction of morbidity and mortality has been accomplished through a combination of improved living standards, public health interventions, and effective drug treatment. However, Canadian-born Aboriginal peoples continue to have a disproportionate burden of TB disease.

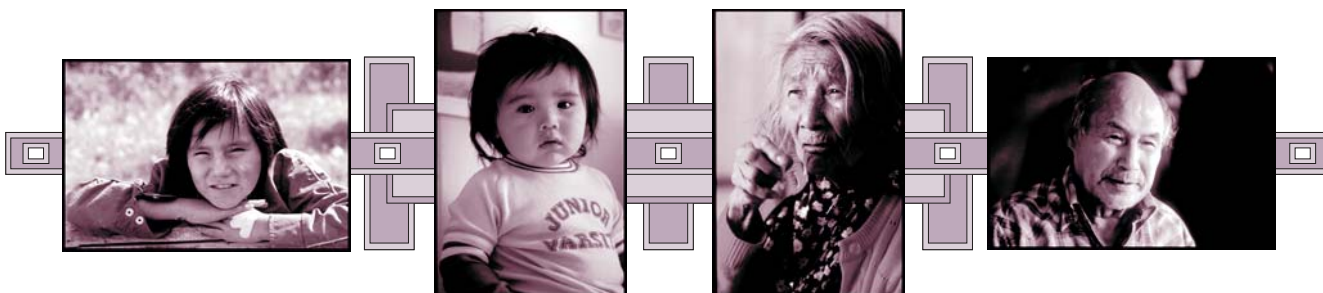
The incidence of TB in the Aboriginal population has been shown to vary inversely with the time interval of contact with the European settlers, higher incidence rates occurring in those areas last exposed<sup>1,2</sup>.

The purpose of this report is to highlight the current trends in the epidemiology of TB disease in Aboriginal peoples across Canada.

## METHODOLOGY

TB disease case data reported to the Canadian Tuberculosis Reporting System (CTBRS) from 1991-1999 were examined. The reporting system is designed to capture information on every new active or relapsed case of TB diagnosed in Canada from all provinces and territories. Cases within the CTBRS meet the Canadian Tuberculosis Standards case definition<sup>3</sup>. The case report collects information on selected demographic characteristics including ethnic origin. Ethnic origin for this report is defined as Status Indian, Non-status Indian/Metis, Inuit, Canadian-born non-Aboriginal and foreign-born. If ethnic origin was reported as unknown, the case was excluded from analysis.

Annual population estimates by origin, including estimates for specific age and sex groups, were obtained from the Demography Division of Statistics Canada (adjusted 1996 census data) and Indian and Northern Affairs Canada. Age-standardized rates (direct method) were calculated using 1996 Canadian Census data as the population denominator.



## OVERALL RESULTS

From 1991-1999 17,590 new active and relapsed TB cases were reported to the CTBRS. Of these, 3,013 (17%) occurred among Canadian-born Aboriginals (Aboriginals). Of the remaining cases, 4,201 (24%) occurred in Canadian-born non-Aboriginals (non-Aboriginals) and 10,281 (58%) occurred in foreign-born individuals. Reports on 95 cases lacked information on ethnic origin and were excluded from analysis. While the number of TB cases among Aboriginals decreased from 339 in 1991 to 315 cases in 1999, the proportion of TB cases that occurred in Aboriginals was relatively unchanged, from 17% to 16% (Figure 1). Age standardized rates revealed a four-fold rate of disease as compared with the national rate and as much as 20 times the rate of non-Aboriginals (Figure 2).

## 1999 RESULTS

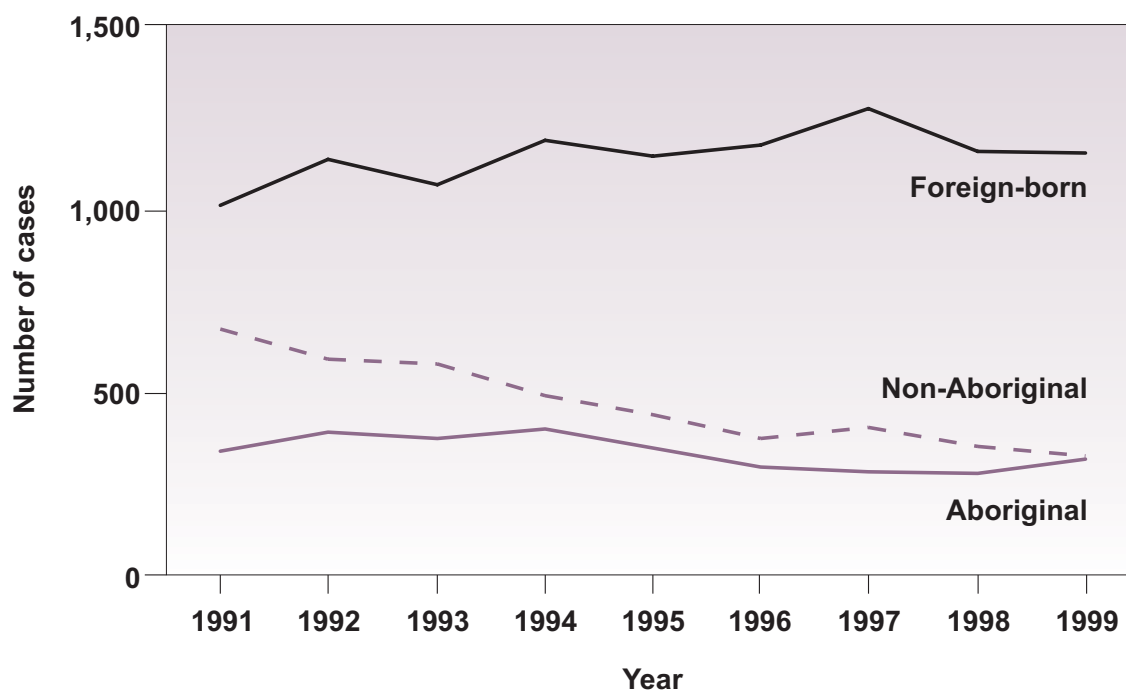
A total of 1,807 cases were reported to the CTBRS in 1999. Of these, 315 were diagnosed in Aboriginals. An additional 324 cases were reported among non-Aboriginals, and 1,152 cases were reported in the foreign-born population. Cases for which ethnic origin was unknown (16 cases) were excluded from analysis.

## Geographic Distribution

Within individual provinces and territories, TB incidence continues to show previously described patterns of higher rates in areas last exposed to European settlers. Rates were highest in the prairie provinces and the north. The territories of Nunavut and the Yukon reported 100% of cases among Aboriginals. In the Northwest Territories, Aboriginal TB represented 91% of reported cases. In Saskatchewan, Manitoba and Alberta, TB in Aboriginals accounted for 87%, 60% and 28% respectively (Figure 3).

**Figure 1**

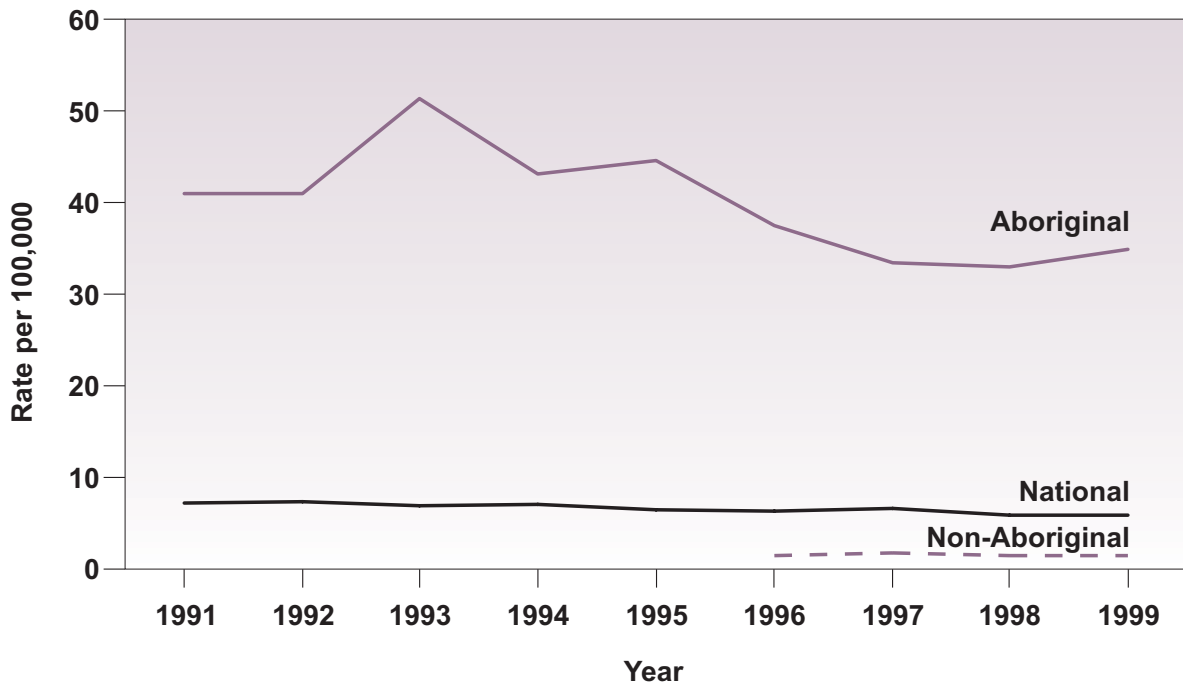
**Reported TB cases by origin in Canada, 1991-1999**





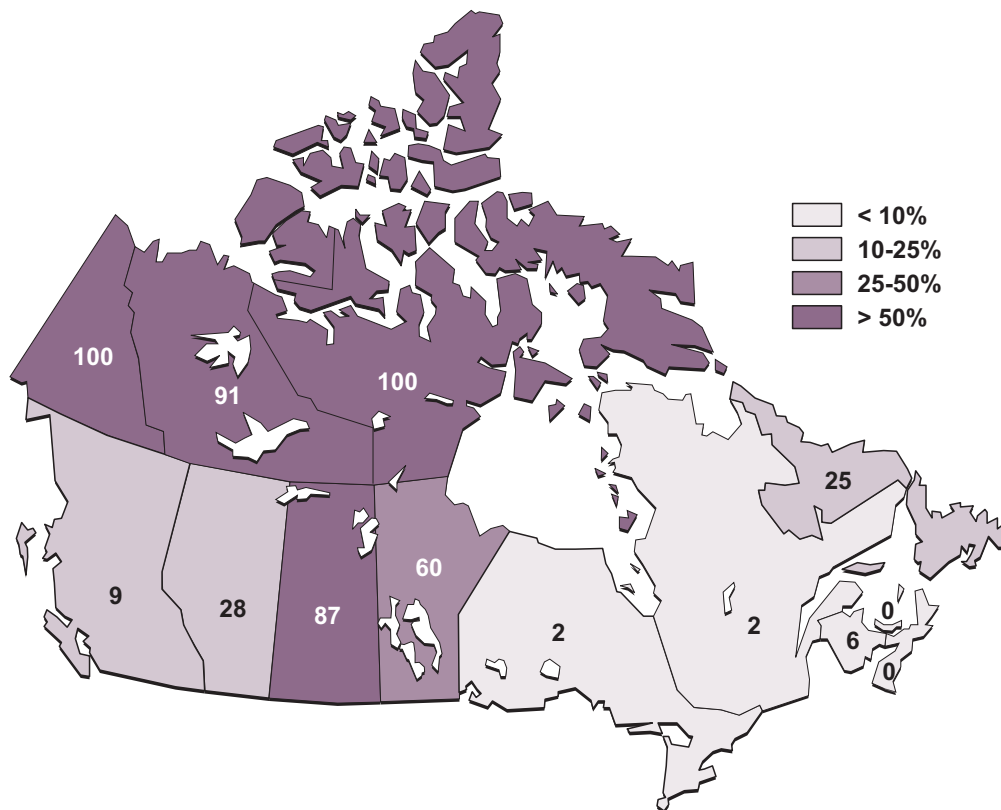
**Figure 2**

**Age-standardized rate of TB incidence in Canada by origin, 1991-1999**



**Figure 3**

**Proportion of reported TB cases in Aboriginal peoples in each province/territory, 1999**



## Demographic Characteristics

The demographic characteristics of TB differ greatly between the Aboriginal and non-Aboriginal populations: 30% of cases in Aboriginals were in individuals less than 15 years as compared with only 9% in non-Aboriginals and less than 2% in foreign-born individuals. People more than 75 years of age accounted for only 7% of Aboriginal TB, whereas this demographic represented 20% of all TB reported in non-Aboriginals (Figure 4). Subsequently Aboriginals with TB were younger (median 27 years) than foreign-born (median 39 years) and non-Aboriginals (median 59 years). Males accounted for a majority of reported cases for all ethnic origins (Aboriginal 57%, non-Aboriginal 61%, foreign-born 52%).

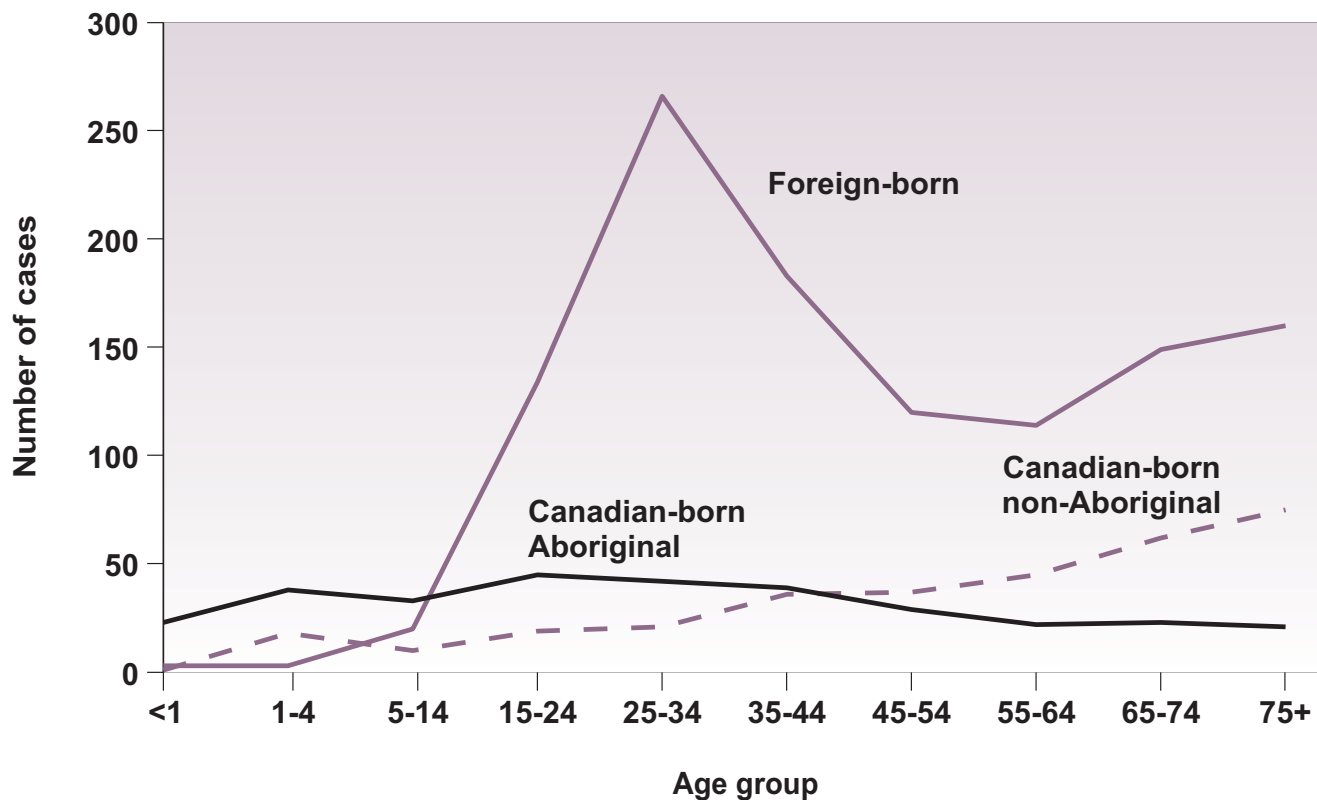
## Clinical Presentation

In Aboriginals, 92% of TB cases were new active cases, and relapsed cases made up the remainder. Fifty-six percent (175 cases) of the total cases were respiratory, and 30% (95 cases) were of primary origin. The Aboriginal presentation of TB is in contrast to that in non-Aboriginal and foreign-born individuals. In non-Aboriginals, respiratory TB accounted for 73% of reported cases and primary TB for only 8%. In foreign-born individuals, 65% of reported TB was respiratory.

The proportion of Aboriginal TB cases that were respiratory and smear and/or culture positive has remained relatively constant over time (Figure 5). From 1991-1999 an average of 86% of respiratory cases were smear and/or culture positive. This proportion was similar to that seen in non-Aboriginals (88%).

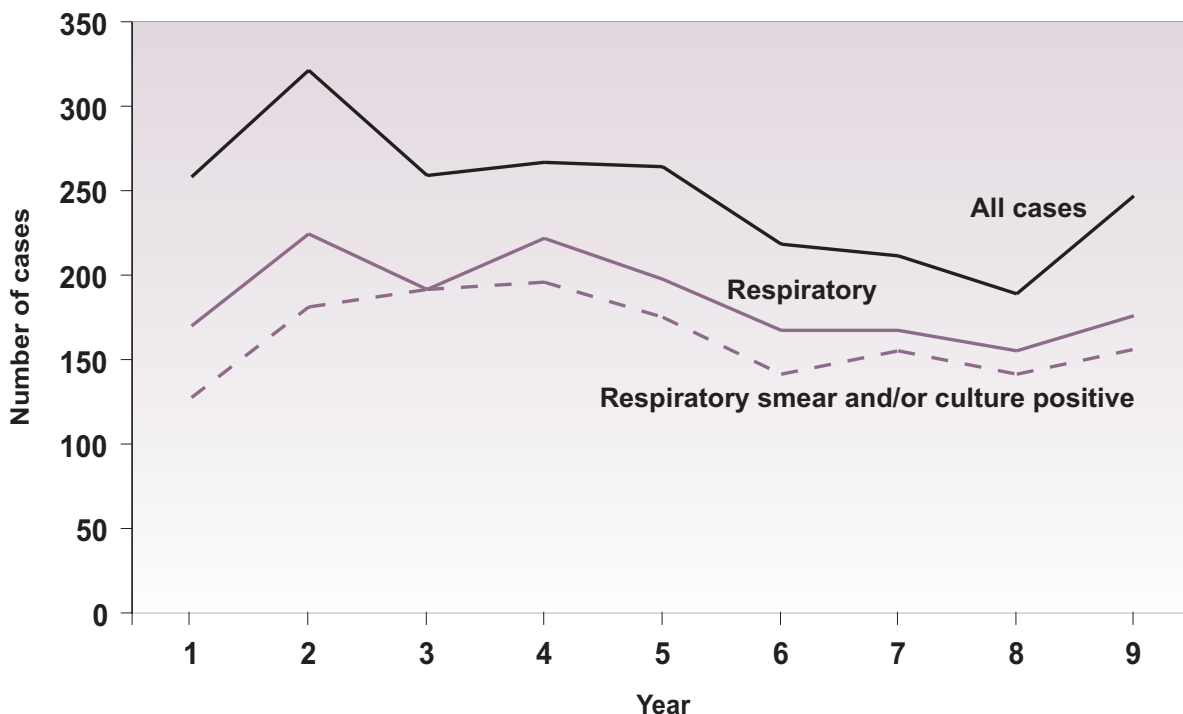
**Figure 4**

**Reported TB cases by origin and age group in Canada, 1999**



**Figure 5**

**Reported respiratory smear and/or culture positive TB cases in Aboriginals**



**Drug Resistance and HIV Co-infection**

Drug resistant strains of TB have not yet emerged as a significant problem in this population. Less than 2% of reported cases were resistant to one or more drugs. The extent of HIV co-infection could not be estimated using data from this surveillance system. HIV status is known for only 2% of reported Aboriginal cases.

**DISCUSSION**

This report presents a current profile of TB disease in Aboriginal people in Canada. The characteristics that contrast most strikingly with other population subgroups are the stable proportion of disease in this population, the substantially higher case rates of disease and the high incidence of primary disease.

TB rates are highest among Aboriginal people in the North and lowest in the East. The current presentation of TB is consistent with the prevailing theory of disease presentation related to time of first contact with European settlers.

Although drug-resistant TB and HIV co-infection have not yet emerged as a concern, they remain potential threats. Difficulties in the delivery of drug therapy as well as marginalization and high risk behaviours may contribute to the development of these risks.

While the overall incidence of TB has been decreasing steadily over the past several decades, Aboriginal people still have a rate almost four times higher than the Canada-wide rate. Several authorities have presented reasons for this continued burden of illness in the Aboriginal population, including the existing large reservoir of infection in Aboriginal communities, difficulties in providing health services in remote areas, and poor socioeconomic conditions.

The Canadian Tuberculosis Committee (CTC) has established a goal of TB elimination in Canada. This goal will be particularly challenging in the Aboriginal population. However, through systematic and coordinated efforts addressing the improvement of social conditions, availability of adequate resources, and application of sound clinical management, the goal of TB elimination is entirely achievable. Reducing and controlling TB in this population will be dependent on early detection of cases followed by prompt and complete treatment in conjunction with a comprehensive, preferably centralized surveillance and prevention program.

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## **REFERENCE LIST**

1. Enarson DA. Tuberculosis in Aboriginals in Canada. *Int J Tuberc Lung Dis* 2001;2:S16-S22.
2. Waldram JB, Herring DA, Young TK. Contact with Europeans and infectious diseases. *Aboriginal Health in Canada*. Toronto: University of Toronto Press Incorporated, 1995: 43-64.
3. *Canadian Tuberculosis Standards*, 5<sup>th</sup> edition. Ottawa: Canadian Lung Association, Government of Canada, 2000.

## EXECUTIVE SUMMARY

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In 1999, 1,807 cases (5.9 per 100,000) of new active and relapsed tuberculosis (TB) were reported to Tuberculosis Prevention and Control from the ten provinces and three territories. New active cases made up the vast majority (90%) of reported cases with relapsed cases accounting for the remainder.

As of April 1, 1999, the territory of Nunavut began reporting as a new jurisdiction. TB incidence rates were similar to that of the neighbouring Northwest Territories. Seven of the reporting jurisdictions had case rates below the national rate (Alberta, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Quebec and the Yukon Territory). The three most populous provinces (Ontario, Quebec and British Columbia) which collectively make up 75% of Canada's population, accounted for 73% of the total number of reported cases. Compared with the previous year, five reporting jurisdictions (Nova Scotia, Ontario, Alberta, the Yukon Territory and the Northwest Territories) reported a decrease in case numbers and rates. Slightly increased rates were reported for Newfoundland, New Brunswick, Quebec, Saskatchewan and Manitoba) (Table B).

By age group, individuals in the age category 25 to 34 years made up the largest number of reported cases, accounting for 18% of the total. However, the corresponding case rate of 7.4 per 100,000 for this age group was surpassed by the age-specific rates of 11.1 and 15.9 per 100,000 for those in the older age groups of 65 to 74 and greater than 74 years respectively (*Appendix II, Table 2A*). Canadian-born non-Aboriginal cases were relatively older (median 58 years) than foreign-born (median 41 years) and Canadian-born Aboriginal TB cases (median 30 years).

The presentation of tuberculosis by gender revealed a larger number of reported cases among males (992 cases, 6.6 per 100,000) than among females (815 cases, 5.3 per 100,000) (*Appendix II, Tables 2B, 2C*).

TB incidence continues to be highest among the foreign-born population. In 1999, cases in foreign-born individuals accounted for 64% of all reported cases. The proportion of all TB cases that were Canadian-born non-Aboriginal, Canadian-born Aboriginal and foreign-born in 1989 were 33%, 20% and 47% respectively. By 1999, these proportions had decreased among Canadian-born non-Aboriginals and Canadian-born Aboriginals to 18% and 17% respectively, whereas among the foreign-born the proportion had increased to 64%.

The provinces of British Columbia and Ontario reported the highest percentage of foreign-born cases (74% and 85% respectively). In other jurisdictions foreign-born cases accounted for over half of all reported cases (Alberta, 60%; Quebec, 57%). In the Northwest Territories, Saskatchewan and Manitoba, cases of Canadian-born Aboriginals contributed all or a large proportion of reported cases (the Yukon Territory and Nunavut 100%, the Northwest Territories 91%; Saskatchewan 87%; Manitoba 60%) (Table C; *Appendix II, Table 6*).

Overall, respiratory TB (please see *Appendix I, Technical Notes* for definition) was the most frequently reported main diagnostic site, representing 65% of reported cases in 1999 (*Appendix II, Table 4*). A larger proportion of Canadian-born non-Aboriginal cases were reported as respiratory TB (73%) compared with that among both the Canadian-born Aboriginal and foreign-born cases (56% and 65% respectively). TB of the peripheral lymph nodes was the second most commonly reported diagnostic site (13%), with 42% of these cases occurring in foreign-born individuals who originated in the WHO Western Pacific Region.

Among the Canadian-born Aboriginal cases, primary TB accounted for the most significant proportion (30%) of all notifications after respiratory TB (*Appendix II, Table 10*).

1,500 of the 1,807 reported cases (83%) were laboratory confirmed. Of the 1,171 respiratory cases, 43% were smear (microscopy) positive and 85% were culture positive (*Appendix II, Table 14*).

Of the 1,807 cases reported in 1999, 1,476 cases were culture positive. Of these, 89% had no resistance to TB drugs. 7.2% were resistant to one drug and the remaining 3.8% showed patterns of resistance to two or more drugs prescribed. The most common type of monoresistance was resistance to Isoniazid (INH) accounting for 39.5% of all reported resistance. Multi-drug resistant TB (please see *Appendix I, Technical Notes* for definition) accounted for < 1% of the drug resistant cultures reported (*Appendix II, Table 15*).

The majority of reported cases (76%) were detected through presentation of symptoms to a medical professional (*Appendix II, Table 17*).

Of the 1,807 cases diagnosed in 1999, 129 were reported to have died in the same year. TB was reported as the underlying cause of death for 26 cases (20%). For 52 cases (40%), TB was reported as contributing to death, but not as the underlying cause (*Appendix II, Table 23*). It should be noted that the number of reported TB related deaths is an underestimate, as it includes only known deaths occurring in the same year as the diagnosis at the time of reporting.

HIV reporting has shown slight improvement from previous reporting years. In 1997 and 1998 HIV status was unknown for 94.3 and 91.6% of the total cases reported respectively. In 1999, HIV status was unknown for 87% of reported cases (*Appendix II, Table 25*).

1999, marks the first year that *Tuberculosis in Canada* is reporting treatment outcome data (1998 cases). Of the 1,791 cases reported in 1998, treatment outcome data was reported for 809 cases. Of these, 80% were reported as being culture negative or having completed treatment. The majority of individuals placed on TB drug therapy in Canada received treatment as per the Canadian Tuberculosis Standards. Drug regimen reporting was complete for 807 cases of which 86% (696 cases) were treated with three or more anti-tuberculosis drugs.

# INTRODUCTION

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The *1999 Tuberculosis in Canada* annual report is a publication of Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada. Reports of new active and relapsed tuberculosis cases are reported to TBPC through the Canadian Tuberculosis Reporting System (CTBRS) from the ten provinces and three territories.

This publication is notably different than previous annual reports published by TBPC. In addition to presenting data for cases reported to CTBRS that were diagnosed in 1999, this report also includes inaugural treatment outcome data for cases diagnosed in 1998. 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 for the following:

- province/territory
- gender
- age
- birthplace
- activity status
- main diagnostic site
- bacillary status
- method of detection
- immigration status
- HIV status
- patterns of drug resistance
- treatment outcomes
- treatment drug regimens.

Appendices to the report include: technical notes on the methodology of the report including the definition of terms (*Appendix I*), data tables (*Appendix II*), estimated incidence of TB from 23 high-burden countries (as designated by the World Health Organization, *Appendix III*), population estimates for 1999 (*Appendix IV*), the tuberculosis case reporting form and the treatment outcome reporting form (*Appendix V*).

The annual reports on tuberculosis morbidity have undergone and will continue to have 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 treatment of tuberculosis. We welcome any comments on the content or format of this document.





# SECTION I – 1999 CASE REPORTING

## NATIONAL TRENDS

Surveillance reports on tuberculosis in Canada are stored and maintained by Tuberculosis Prevention and Control dating back to the early 1920's. Following a peak in the epidemic in the early 1940's, the reported incidence of TB has shown continued decline (Figure 6). Over the past decade, the reported incidence and number of cases of TB has remained relatively stable (Table A, Figure 7). In 1999, 1807 cases of TB were reported to the Canadian Tuberculosis Reporting System resulting in an incidence rate of 5.9 per 100,000. New active cases made up the vast majority of reported cases (5.3 per 100,000) with relapsed cases accounting for the remainder (0.5 per 100,000).

**Table A**

**Cases of tuberculosis in Canada: 1987-1999**

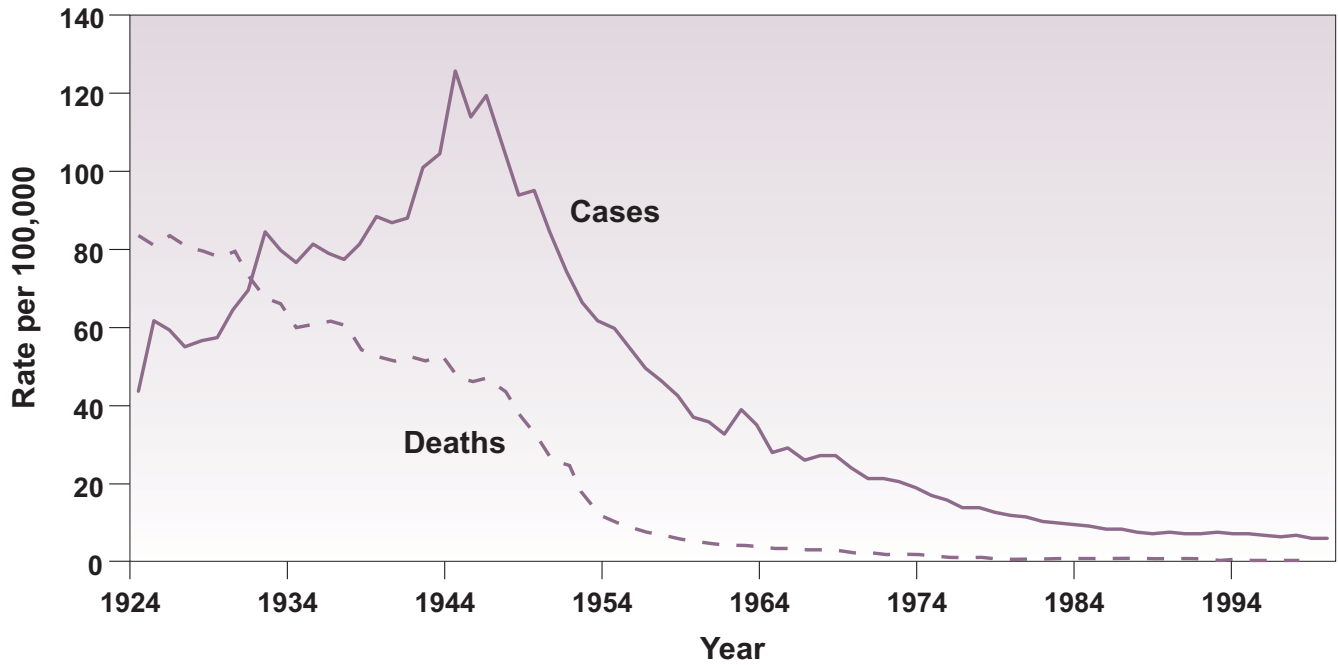
Year	Number of reported cases	Crude rate per 100,000	3 year moving average
1987	1,972	7.4	
1988	1,947	7.2	7.3
1989	2,035	7.4	7.3
1990	1,997	7.2	7.3
1991	2,018	7.2	7.3
1992	2,108	7.4	7.3
1993	2,012	7.0	7.2
1994	2,074	7.1	6.7
1995	1,931	6.5	6.6
1996	1,868	6.3	6.5
1997	1,977	6.6	6.3
1998	1,791	5.9	6.1
1999	1,807	5.9	

## GEOGRAPHIC DISTRIBUTION

Several reporting jurisdictions reported case rates below the national rate (Figure 8). TB incidence remains lowest in the easterly provinces and highest in the northern regions (Table B, Figure 9).

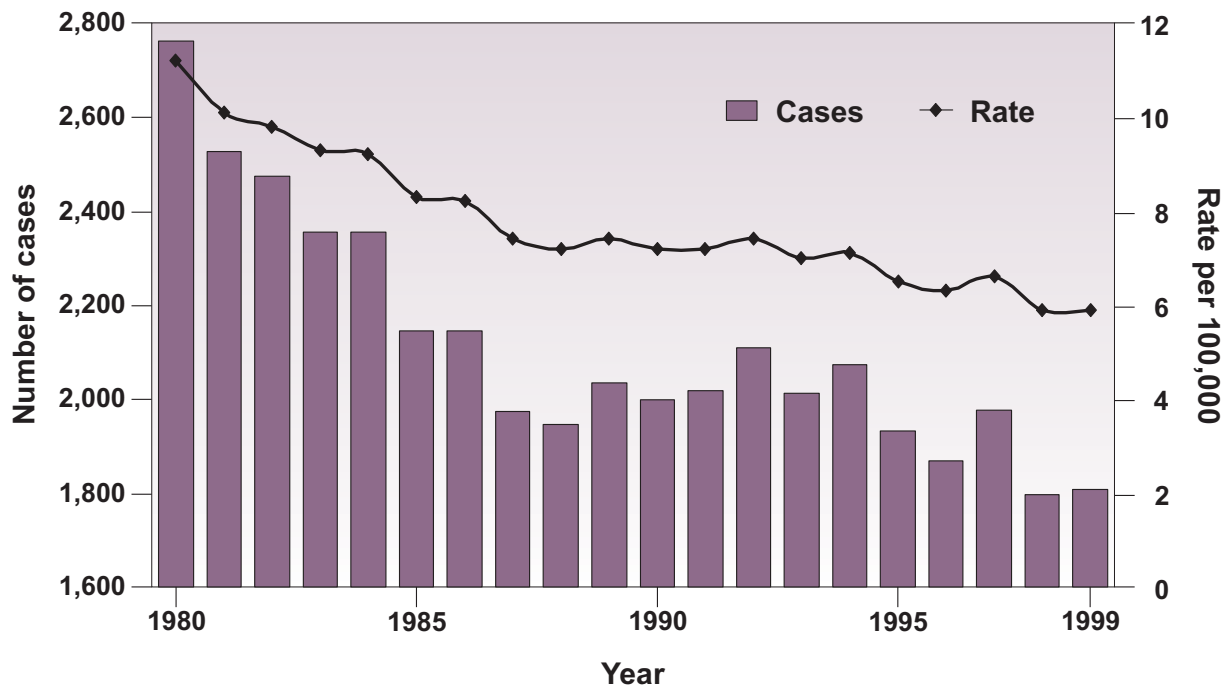
**Figure 6**

**Tuberculosis incidence and mortality rates – Canada: 1924-1999**



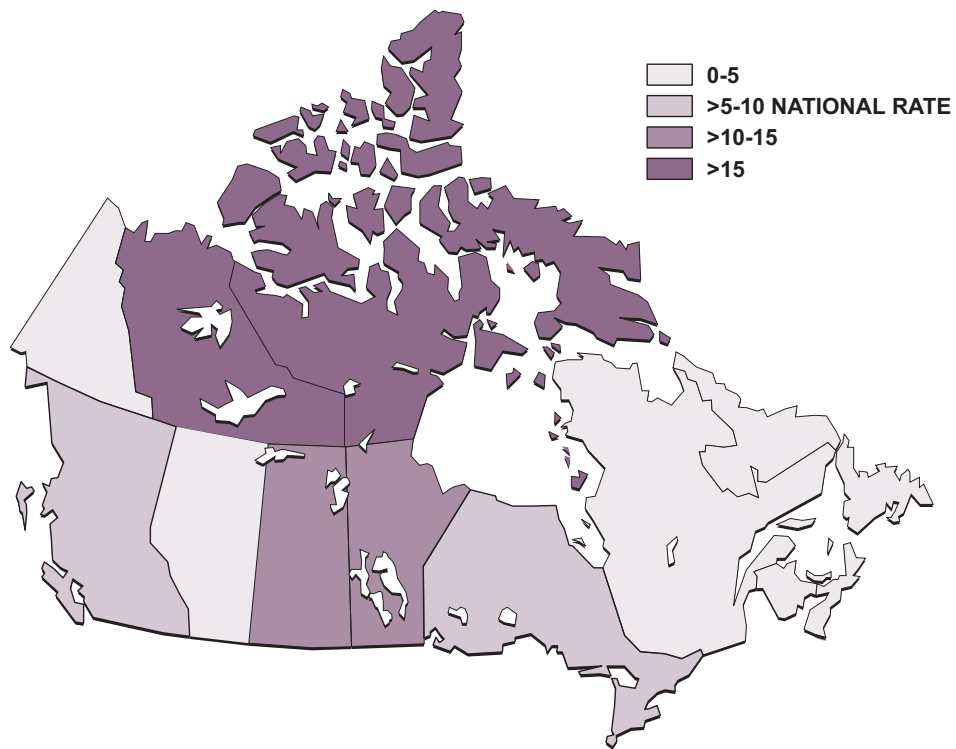
**Figure 7**

**Tuberculosis cases and incidence – Canada: 1980-1999**



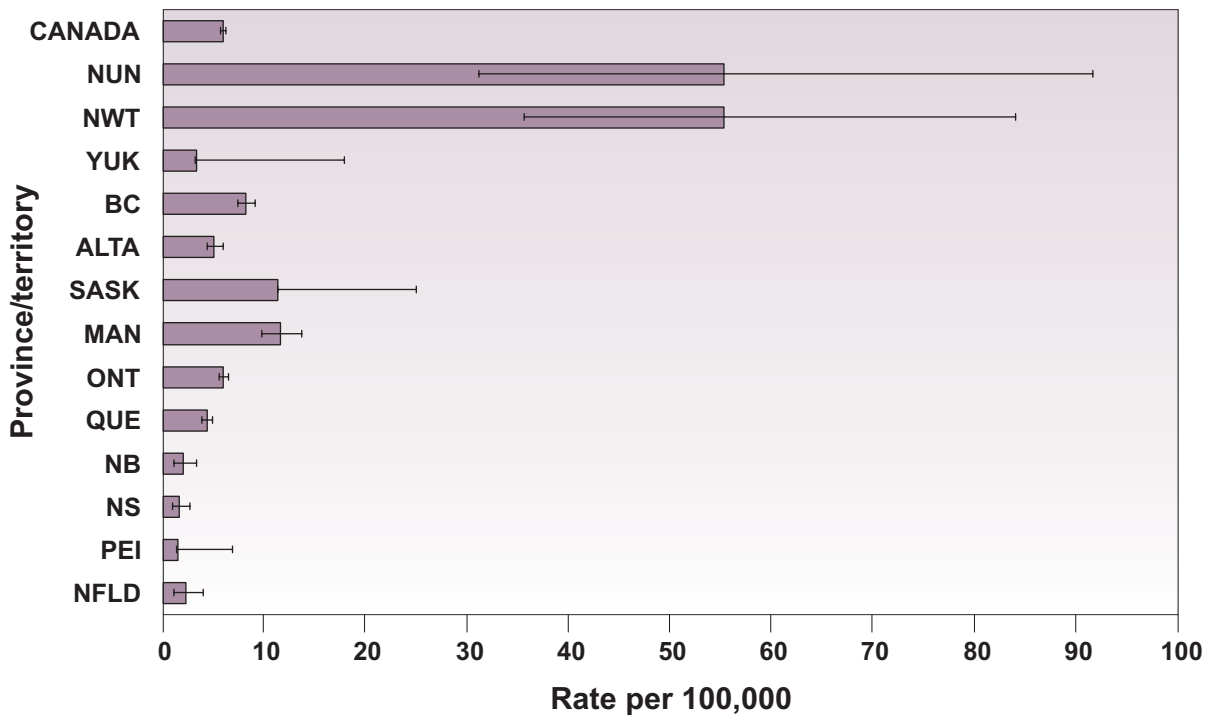
**Figure 8**

**Tuberculosis incidence by province/territory as compared to national rate (5.9 per 100,000): 1999**



**Figure 9**

**Tuberculosis incidence (95% confidence interval) – Canada and provinces/territories: 1999**



**Table B****Ranked tuberculosis incidence in Canada – provinces/territories: 1999**

Reporting province or territory	Rate per 100,000 (95% CI)
Northwest Territory	55.3 (35.5-84.0)
Nunavut	55.3 (31.1-91.6)
Manitoba	11.5 (9.7-13.7)
Saskatchewan	11.3 (9.3-13.6)
British Columbia	8.2 (7.3-9.1)
Ontario	5.9 (5.5-6.4)
Alberta	5.0 (4.3-5.9)
Quebec	4.3 (3.8-4.8)
Yukon	3.3 (0.1-17.9)
Newfoundland	2.2 (1.1-3.9)
New Brunswick	2.0 (1.1-3.3)
Nova Scotia	1.6 (0.9-2.6)
Prince Edward Island	1.5 (0.2-5.3)
<b>CANADA</b>	<b>5.9 (5.7-6.2)</b>

**AGE GROUP AND SEX DISTRIBUTION**

In 1999, individuals aged 25 to 34 years made up the largest number of reported cases, accounting for 18% of the total. However, the corresponding case rate of 7.4 per 100,000 for this age group was surpassed by the age-specific rates of 11.1 and 15.9 per 100,000 for those in the older age groups of 65 to 74 and greater than 74 years respectively (Figure 10; *Appendix II*, Table 2A).

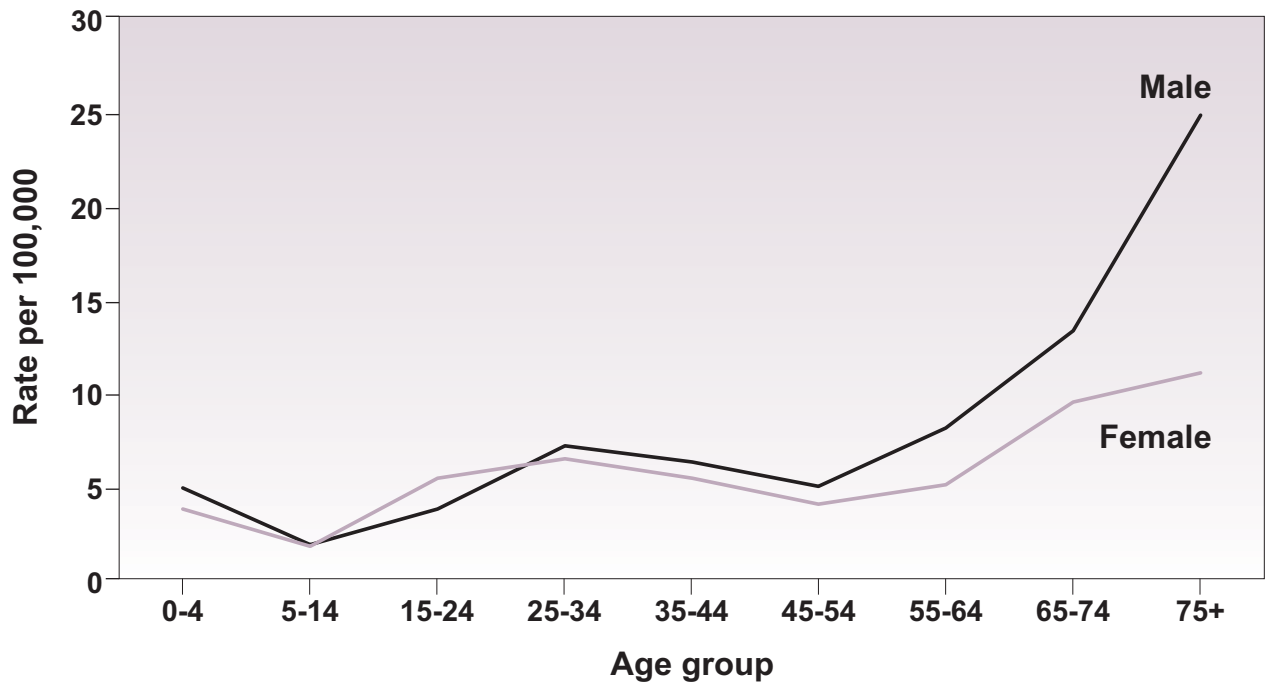
Over the past two decades, incidence rates of TB in males and females have followed a similar pattern of decline. While case reporting and incidence has always been higher in males, there has been a noted decrease in the differential between males and females over the past five years (Figure 11; *Appendix II*, Tables 5B and 5C). In 1999, the presentation of tuberculosis by gender continued to reveal a larger number of reported cases among males (992 cases, 6.6 per 100,000) than among females (815 cases, 5.3 per 100,000) (*Appendix II*, Tables 2B and 2C).

**BIRTHPLACE DISTRIBUTION**

Since the collection of the data variable origin (Canadian-born Aboriginal, Canadian-born non-Aboriginal and Foreign born), a steady increase in the proportion of reported TB cases among the foreign-born population has been noted. Conversely, a decline has been noted in the number of reported Canadian-born non-Aboriginal cases; whereas, the proportion of reported TB cases in Canadian-born Aboriginals has remained relatively constant. In 1989, the proportion of all TB cases that were Canadian-born non-Aboriginal, Canadian-born Aboriginal and foreign-born were 33%, 20% and 47% respectively. By 1999, these proportions had decreased among Canadian-born non-Aboriginals and Canadian-born Aboriginals to 18% and 17% respectively, whereas among the foreign-born the proportion had increased to 64% (Figure 12; *Appendix II*, Table 3). TB incidence was highest in the Canadian-born Aboriginal

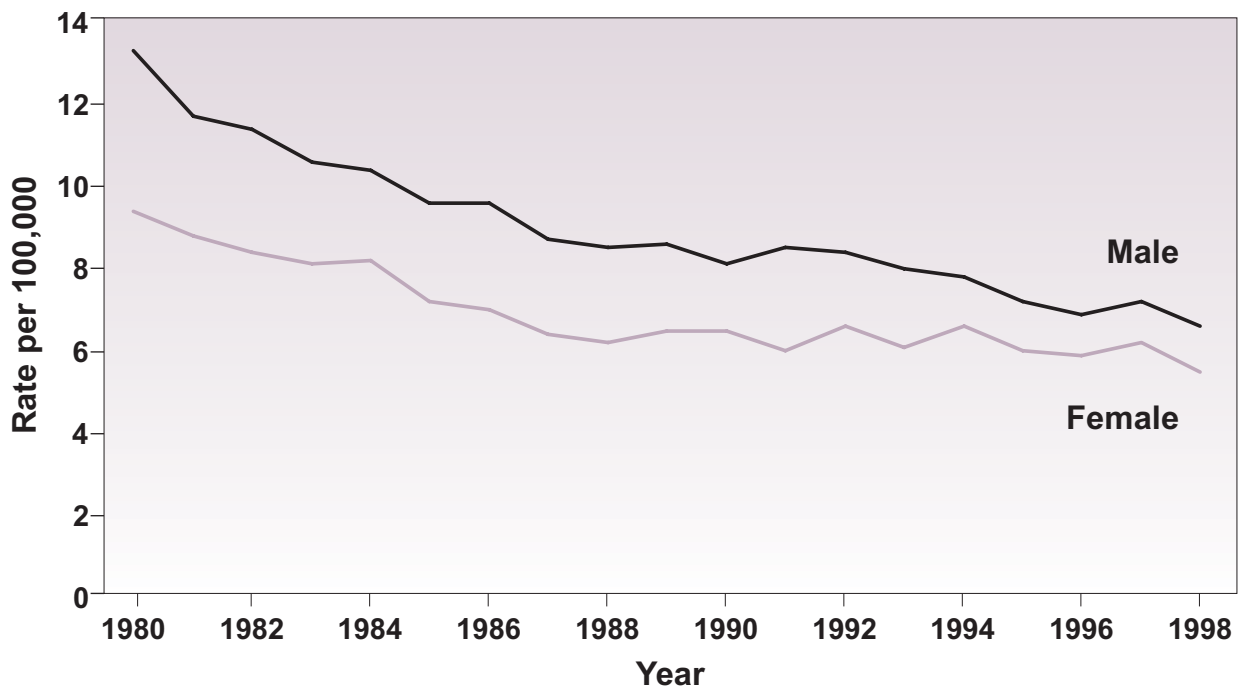
**Figure 10**

**Tuberculosis incidence by age group and sex – Canada: 1999**



**Figure 11**

**Tuberculosis incidence by sex – Canada: 1980-1999**



population (25.1 per 100,000) followed closely by an incidence of 20.8 per 100,000 in the foreign-born population. In the Canadian-born non-Aboriginal population, TB incidence was 1.4 per 100,000 (*Appendix II, Table 6*).

In general, TB cases in foreign-born most often occurred in the 25-34 age group; whereas, Canadian-born non-Aboriginal cases are more often reported in the older demographic (75+). Canadian-born Aboriginal cases are more frequently reported in the younger age groups (*Figure 13; Appendix II, Table 8*).

The distribution of TB cases by origin shows the provinces of British Columbia and Ontario reporting the highest proportions of foreign-born cases (74% and 85% respectively). In other jurisdictions foreign-born cases accounted for just over half of all reported cases (Alberta, 60%; Quebec, 57%). In the Northwest Territories, Saskatchewan and Manitoba, cases of Canadian-born Aboriginals contributed all or a large proportion of reported cases (Yukon and Nunavut 100%, Northwest Territories 91%; Saskatchewan 87%; Manitoba 60%) (*Figure 14; Table C; Appendix II, Table 6*).

**Table C**

**Proportion of tuberculosis cases in Canada by origin – provinces/territories: 1999**

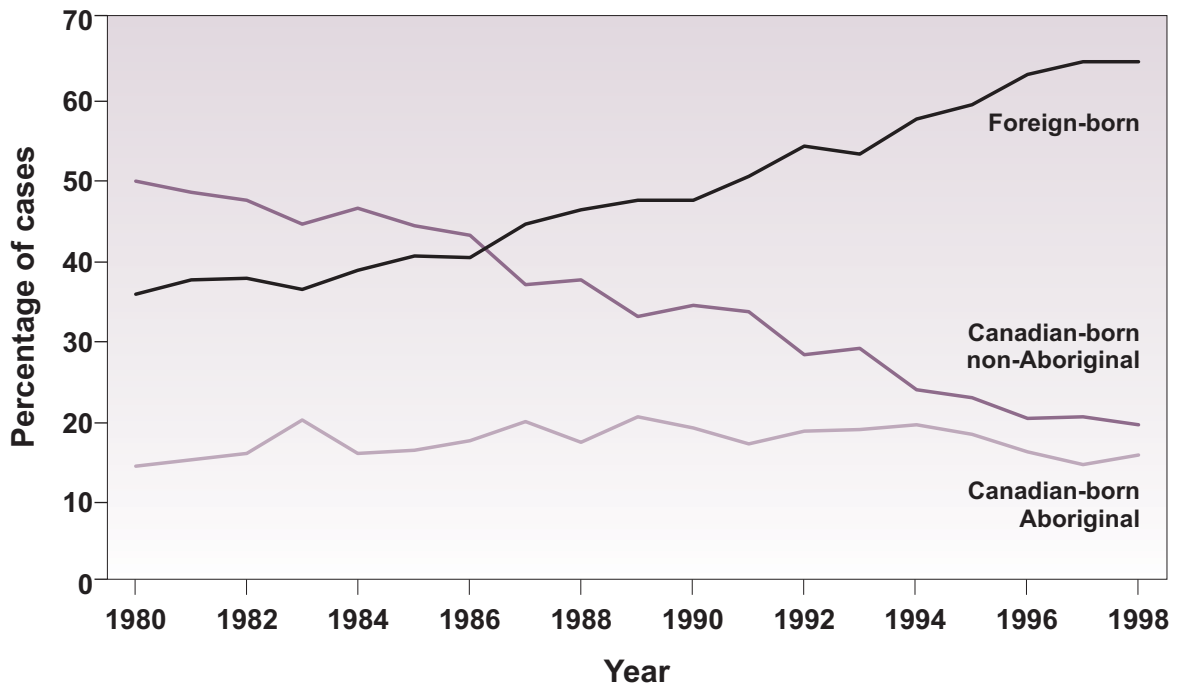
Reporting province or territory	Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
Newfoundland	25.0	66.6	8.3	–
Prince Edward Island	–	100.0	–	–
Nova Scotia	–	6.6	86.6	6.6
New Brunswick	6.6	53.3	33.3	6.6
Quebec	2.2	39.8	57.0	1.0
Ontario	2.2	11.3	85.0	1.6
Manitoba	59.8	13.6	26.5	–
Saskatchewan	87.1	7.8	5.2	–
Alberta	27.5	12.8	59.7	–
British Columbia	9.4	16.4	74.2	–
Yukon	100.0	–	–	–
Northwest Territories	91.3	8.7	–	–
Nunavut	100.0	–	–	–
<b>CANADA</b>	<b>17.4</b>	<b>17.9</b>	<b>64.1</b>	<b>8.8</b>

\* Totals may not always equal 100 due to rounding.

By World Health Organization (WHO) region, foreign-born case reporting was highest in individuals originating in the Western Pacific Region (511 cases; 44.2 per 100,000). However, the highest case rate (51.6 per 100,000) was found among individuals from the Region of South East Asia. Reported cases of TB in Canada by WHO region are compared to reported TB incidence in the respective WHO region in Table D (*Figure 15*).

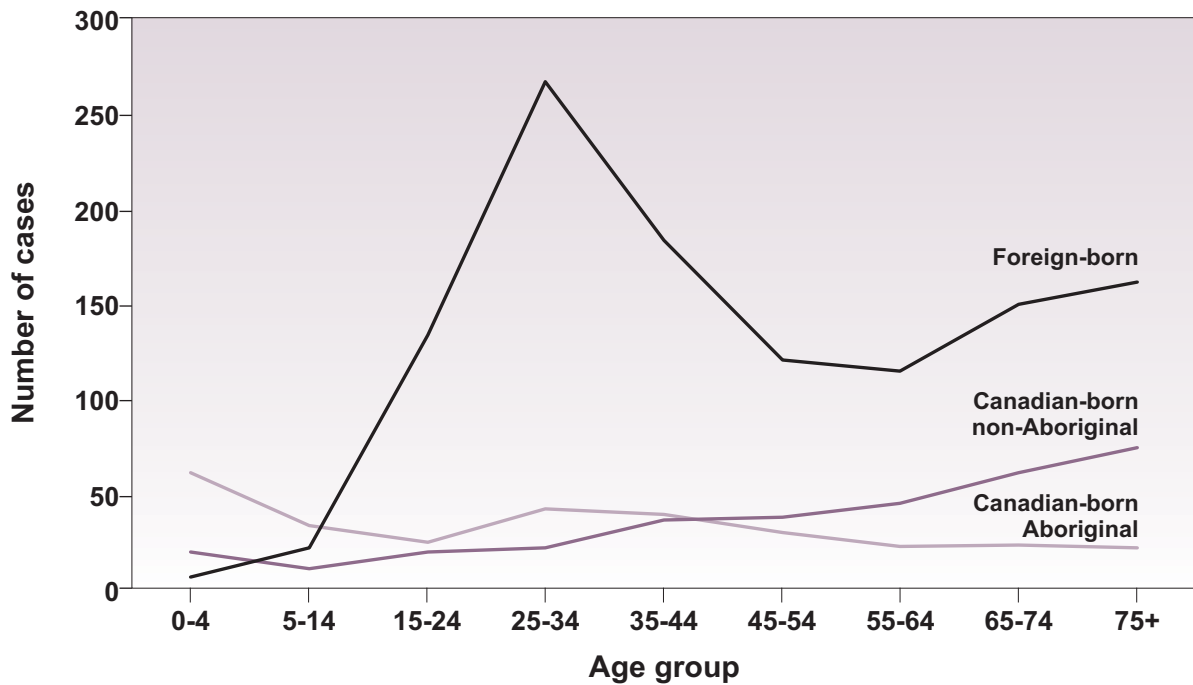
**Figure 12**

**Proportion of tuberculosis cases by origin – Canada: 1980-1999**



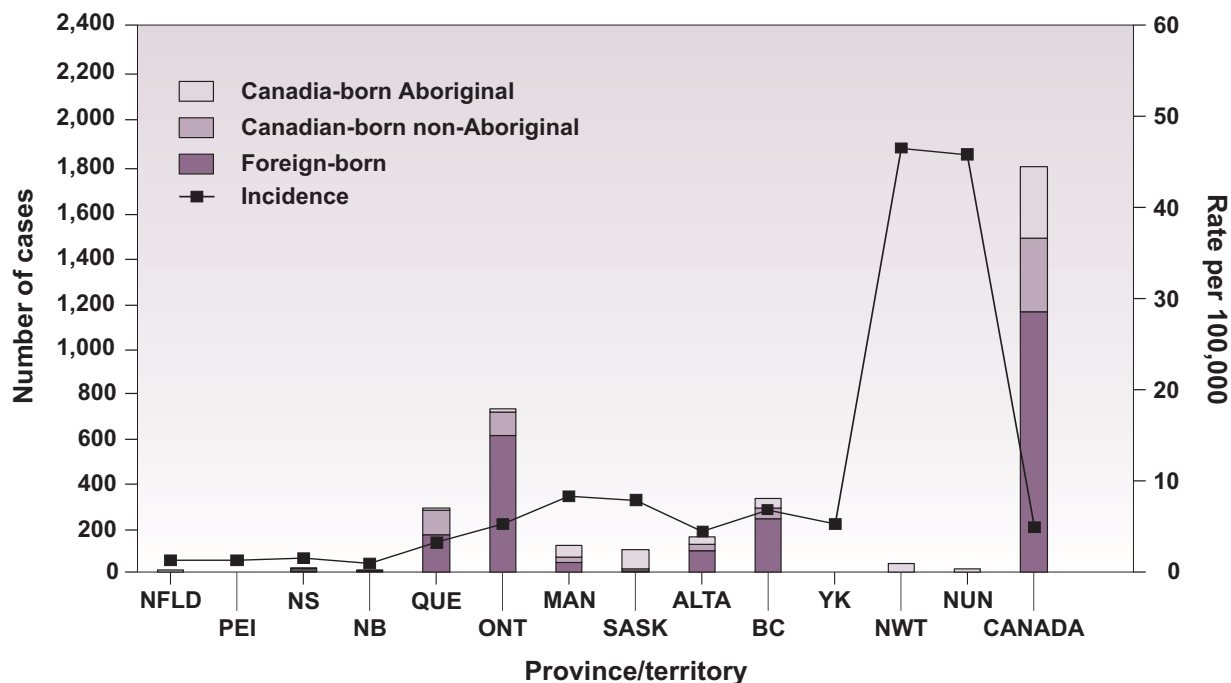
**Figure 13**

**Tuberculosis cases by age group and origin – Canada: 1999**



**Figure 14**

Distribution of tuberculosis cases and incidence by origin – Canada and provinces/territories: 1999



**Figure 15**

Comparison of tuberculosis incidence in WHO regions and in individuals from regions in Canada: 1999





**Table D****Comparison of WHO region rates (per 100,000) in Canada and in WHO region**

WHO region	Crude rate in Canada	Crude rate in region*
Africa	45.0	105
Americas	7.8	29
East Mediterranean	32.0	32
Europe	5.5	43
South East Asia	51.6	97
Western Pacific	44.2	49

\*Global Tuberculosis Control: WHO Report 2001. WHO/CDS/TB/2001.287 Geneva.

**DIAGNOSTIC DETAILS**

Overall, respiratory TB (please see *Appendix I: Technical Notes* for definition) was the most frequently reported diagnostic site, representing 65% of reported cases in 1999 (*Appendix II, Table 4*). A larger proportion of Canadian-born non-Aboriginal cases were reported as respiratory TB (73%) compared with that among both the Canadian-born Aboriginal and foreign-born cases (56% and 65% respectively). TB of the peripheral lymph nodes was the second most commonly reported diagnostic site (13%), with 42% of these cases occurring in foreign-born individuals who originated in the WHO Western Pacific Region. Among the Canadian-born Aboriginal cases, primary TB accounted for the most significant proportion (30%) of all notifications after respiratory TB. 61% of all primary cases reported occurred in Canadian-born Aborigines (*Figure 16; Appendix II, Table 10*).

TB of the central nervous system (CNS) was rare, accounting for only 15 of the 1,807 (< 1%) reported cases. Similarly, miliary TB was infrequently diagnosed, accounting for 38 (2%) of the reported cases (*Table E; Appendix II, Table 4*).

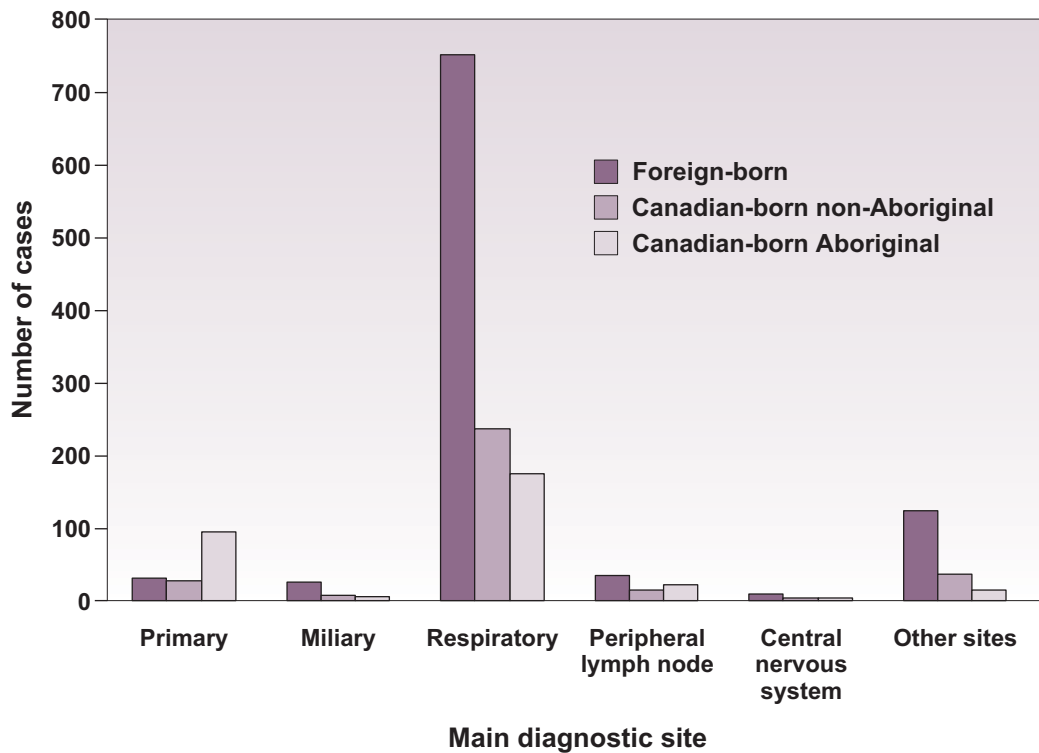
**Table E****Tuberculosis cases by main diagnostic site in Canada: 1999**

Diagnostic site	Number of cases	Percent of total cases	Rate per 100 000
Primary	155	9	0.5
Miliary	38	2	0.1
Respiratory	1,171	65	3.8
Peripheral Lymph Node	240	13	0.8
Central Nervous System	15	1	0.0
Other/Unknown	188	10	0.6
<b>TOTAL</b>	<b>1,807</b>	<b>100</b>	<b>5.9</b>

Fifteen hundred of the 1,807 reported cases (83%) were laboratory confirmed. Of the 1,171 cases of respiratory TB reported, 43% (512 cases) were smear positive and 85% (999 cases) were culture positive, denoting probable infectious respiratory TB. Over time, the proportion of TB cases reported as respiratory, smear and/or culture positive has averaged approximately 30% of the total reported cases, and 40% of the respiratory cases (*Figure 17*).

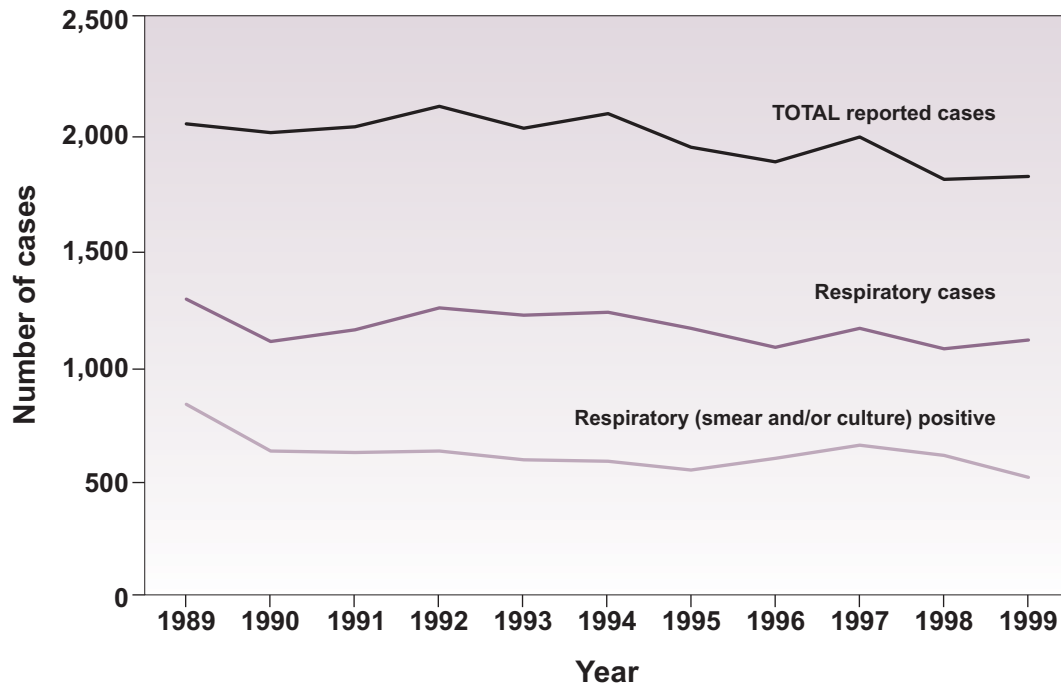
**Figure 16**

Tuberculosis cases by main diagnostic site and origin – Canada: 1999



**Figure 17**

Respiratory (smear and/or culture) positive tuberculosis cases – Canada: 1989-1999



The majority of reported cases (76%) were detected through presentation of symptoms to a medical professional (*Appendix III, Table 17*).

Of the 1,807 cases diagnosed in 1999, 129 reportedly died in the same year. TB was the underlying cause of death for 26 cases (20%). TB contributed to death, but was not the underlying cause for 52 cases (40%) (*Appendix III, Table 23*). It should be noted that the number of reported TB related deaths is an underestimate, as it includes only known deaths at time of reporting.

HIV reporting has shown slight improvement from previous reporting years. In 1997 and 1998 HIV status was unknown for 94.3% and 91.6% of the total cases reported respectively (*Figure 18*). In 1999, HIV status was unknown for 87% of reported cases (*Appendix II, Table 25*).

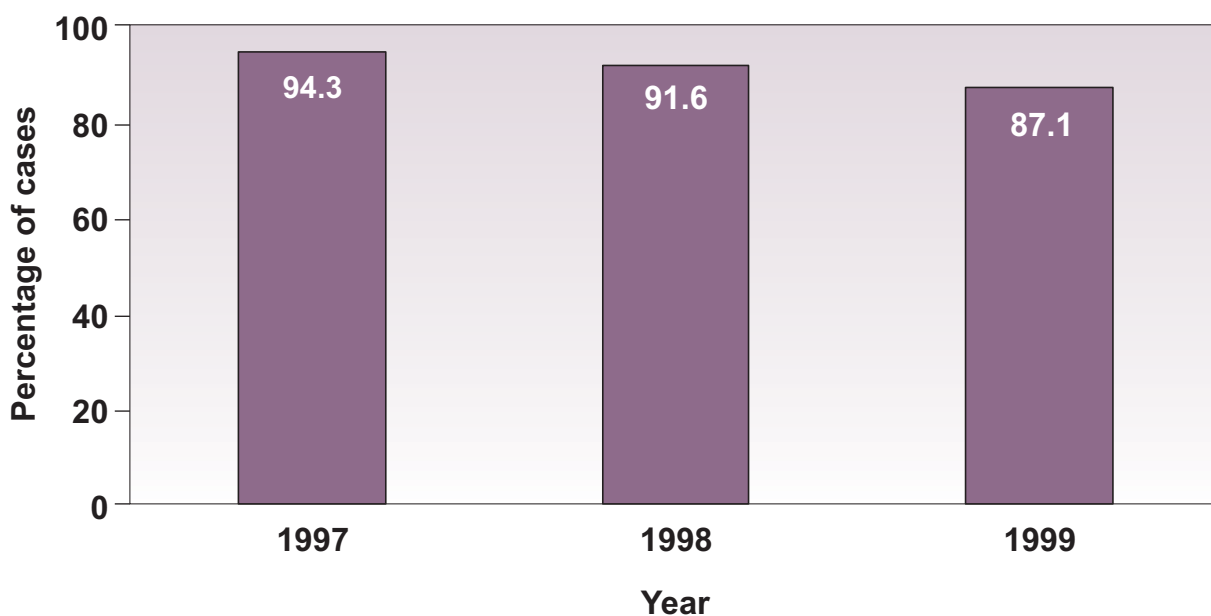
## **RESISTANCE PATTERNS**

Of the 1,807 cases reported in 1999, 1,476 cases were culture positive. Of these, 89% had no resistance to TB drugs. 7.2% were resistant to one drug and the remaining 3.8% showed patterns of resistance to two or more drugs. The most common type of monoresistance was resistance to Isoniazid (INH) accounting for 39.5% of all reported resistance. Multi-drug resistant TB (please see *Appendix I, Technical Notes* for definition) accounted for < 1% of all positive cultures (*Appendix II, Table 15*).

Foreign-born cases accounted for the majority of resistance to one or more drugs (83%). Drug resistance to one or more drugs was reported for 17% of the Canadian-born non-Aboriginal cases and < 1% of Canadian-born Aboriginal cases (*Appendix II, Table 16*).

**Figure 18**

**Proportion of tuberculosis cases for which HIV status is unknown – Canada: 1997-1999**





## SECTION II – 1998 TREATMENT OUTCOMES

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### NATIONAL TRENDS

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Treatment outcome data for reported new active and relapsed cases are presented for the first time in this report. Of 1,791 cases diagnosed in 1998 treatment outcome status was known for 809 cases. The majority of cases for which treatment outcome status was known were reported as “Cure-negative culture” or “Treatment completed” (649 cases, 80%). Of the remaining known cases 10% died prior to completing treatment (Figure 19).

The majority of individuals were reported to have received treatment as per the Canadian Tuberculosis Standards<sup>1</sup>. Drug regimen reporting was complete for 806 cases of which 86% (696 cases) were treated with three or more anti-tuberculosis drugs.

Cases reported having been placed on the standard drug regimen of Isoniazid (INH)/Ethambutol (EMB)/Rifampin RMP)/Pyrazinamide (PZA)<sup>1</sup> were more likely to have been reported as cure – culture negative (30%) than all other drug combinations combined (21%) (*Appendix II, Table 27*).

Approximately 41% of individuals for which treatment outcome status was known were placed on Directly Observed Therapy (DOT). An additional 53% self-administered their medications. A percentage difference in successful treatment outcome status was observed between these two major modes of treatment (Cure or treatment completed: 86%-DOT, 74% – self-administered) (Figure 20).

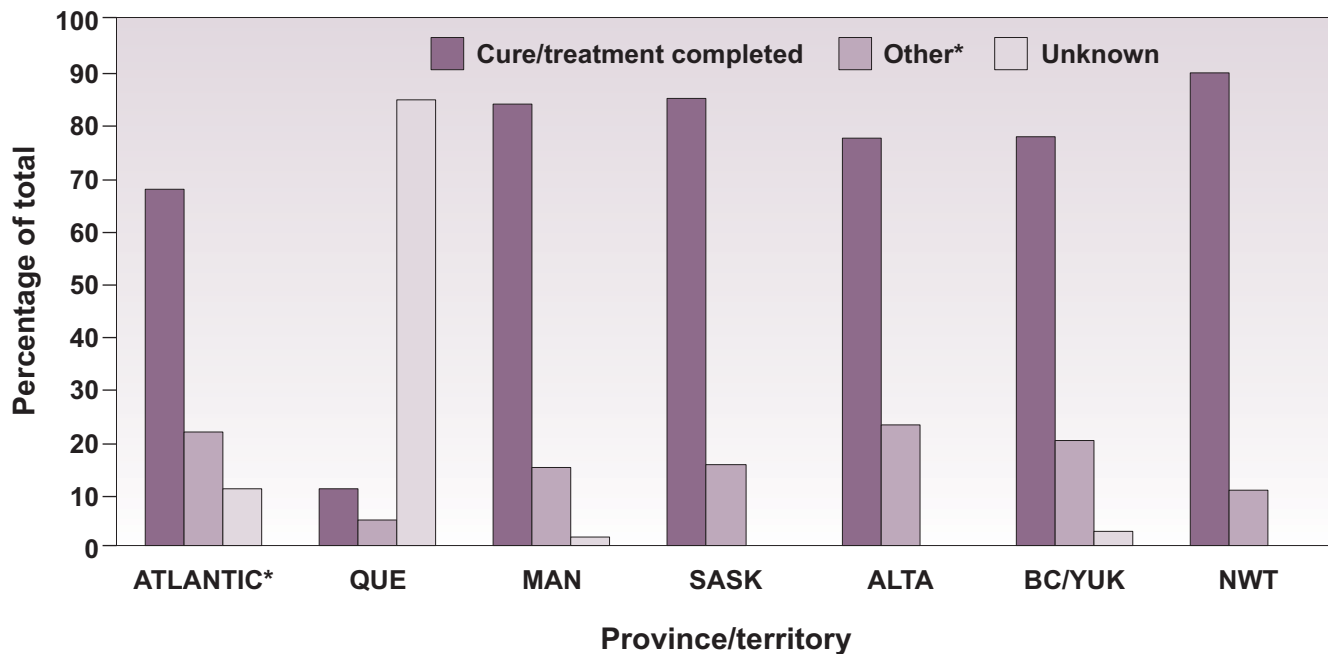
Adverse outcomes such as death or abscondment were slightly higher in the self-administered treatment group as compared to DOT. 3.5% of DOT cases died prior to completing treatment versus 4.3% in the self-administered treatment group. Similarly, 0.9% of DOT cases absconded versus 1.4% in the self-administered group.

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<sup>1</sup> Canadian Tuberculosis Standards. Canadian Lung Association, Government of Canada, 2000.

**Figure 19**

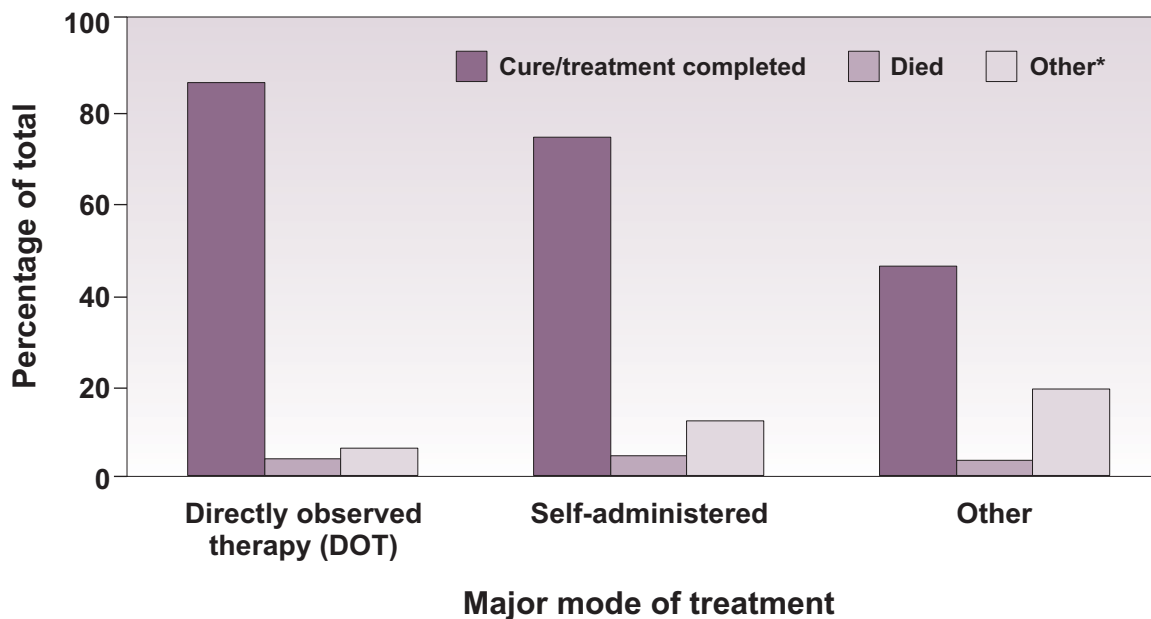
Treatment outcome status of tuberculosis cases by provinces/territories – Canada: 1998



\*P.E.I. (Atlantic) and ONT. excluded from analysis due to non-reporting.

**Figure 20**

Treatment outcome status of tuberculosis cases by major mode of treatment – Canada: 1998



\*transfer, absconded, treatment ongoing

# APPENDIX I

## TECHNICAL NOTES

---

### METHODOLOGY AND DATA QUALITY

#### **Data collection**

The Canadian Tuberculosis Reporting System (CTBRS) maintained by Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada, is derived from records of provincial/territorial tuberculosis registries. The reporting system captures information on every new active or relapsed case of tuberculosis (including treatment outcomes) diagnosed in Canada. All provinces and territories have legislation requiring physicians, laboratories and other health officials to report cases of tuberculosis to an office of tuberculosis control. Standard case notification and treatment outcome forms are used to collect information (please see *Appendix V*), and reported to TBPC in hard copy or electronic format. The Canadian Tuberculosis Committee is responsible for determining the content of the database.

#### **Data processing**

Case notifications received at TBPC are checked for completeness and logged. Data are captured in a standard format on computer, with validity and correlation edits being an integral part of the data entry process. Lists of cases together with any queries arising from edit failures are returned to provincial/territorial programs for review, correction of errors and to ascertain the completeness of case lists for the year. All provinces and territories have agreed to report their cases for the previous year by June 1<sup>st</sup> of the current year.

#### **Calculation of rates**

All rates expressed in this report are per 100,000 individuals. The rates used in this report have been calculated using population figures provided by the Demography Division of Statistics Canada and Indian and Northern Affairs Canada (see *Appendix IV*). Population estimates are adjusted for net census under-coverage and to include non-permanent residents. For more information, see 'Population Figures' in the Definitions of Terms section. Adjustments to the population estimates and updates to the reported number of cases in some provinces may result in case counts and rates in this report may differ slightly from those in previous reports emanating from TBPC.

#### **Data quality**

Several aspects of data quality affect the usefulness of the data: completeness of reporting (or coverage), completeness of item response, accuracy or validity of responses and timeliness.

An explicit review of this reporting system is forthcoming. Coverage can vary according to the vigilance of the provincial/territorial offices of tuberculosis control in their case-finding efforts. One form of coverage error may occur if cases that do not meet the criteria for

inclusion (i.e., case definition) are included in the CTBRS. In addition, tabulations in annual reports may be slightly incomplete because case notifications received after a cut-off date are not included.

Of the cases reported to TBPC, reporting of most core data items is virtually complete. Reporting is less complete for some of the data items introduced in 1997 (i.e. HIV status).

Users of this report should consider certain limitations. Definitions used for "origin" specifically, "Status Indian", "Non-status Indian or Metis", "Inuit" and "Other" may not strictly correspond to the definitions used by Census Canada or by Indian and Northern Affairs Canada. The terms "new active" and "relapsed" may be interpreted differently in different provinces/territories; the definitions of these terms were revised effective January 1, 1997 (see *Definitions of Terms*). Data in this report are tabulated according to year of diagnosis; however, since 1990, Ontario data have been tabulated according to episode date (which is the closest approximation of date of onset of illness). Since 1997, Quebec data are tabulated according to report date. Finally, tables presenting drug resistance patterns utilise different reporting methodology than other similar reports.

## **Other sources of information**

In addition to these annual data on new active and relapsed cases of tuberculosis in Canada, the numbers of tuberculosis cases are presented monthly, based on date of diagnosis, by province, age group and sex as part of the 'Notifiable Disease Summary' appearing in the *Canada Communicable Disease Report*.

While the latter series provides useful current information, the consolidated annual data on new and relapsed cases appearing in this report is the more authoritative source of information on tuberculosis reporting for Canada.



## **DEFINITION OF TERMS**

### **Tuberculosis registry**

The central organization within a province/territory that is in receipt of, records and accumulates information on TB cases, follows up all reported cases and maintains a register of persons with tuberculosis.

### **Notification**

The receipt of a report concerning a new active or relapsed case of tuberculosis meeting the Canadian tuberculosis case definition.

### **Tuberculosis case definition**

Effective January 1, 1997:

#### **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 travelling with or without a visa, stopping in Canada en route.

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

**New case:** no documented evidence or history of previously active tuberculosis.

**Relapsed (reactivated) case:** documented evidence or history of previously active tuberculosis which became inactive.

##### **Inactive tuberculosis:**

- a. Cultures for *M. tuberculosis* negative for at least 6 months

OR

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

## Treatment outcomes

1. **Cure** – negative culture at completion of treatment
2. **Treatment completed** – patient who has completed treatment without culture at the end of treatment
3. **Died** – death during treatment and TB was the cause of death, TB contributed to death but was not the underlying cause or TB did not contribute to death
4. **Transfer** – patient transferred to new jurisdiction and the outcome of treatment is unknown
5. **Failure** – culture positive at 5 months or more
6. **Abandoned** – patient was lost to follow-up before completion of 80% of doses, 8 months after treatment started
7. **Treatment ongoing**
8. **Other** (specify)
9. **Unknown**

## Directly observed treatment (DOT)

A trained and supervised person observes the patient swallowing the medication.

## Diagnostic classification

The classification used is the *International Classification of Diseases, 9th Edition*. Up to five diagnoses per case are captured and used to determine the Main Diagnostic Site using the following hierarchy: Primary, Miliary/Disseminated, Respiratory (includes Pulmonary, Pleurisy and other respiratory), Meninges and Central Nervous System, Peripheral Lymph Node and Other Sites.

## Deaths

This report contains statistics on deaths from the Canadian Tuberculosis Reporting System, which introduced new questions in 1990 concerning deaths of persons registered as cases of active tuberculosis. These statistics are shown in *Appendix II*, Tables 23 and 24 and are based on the patient's status at time of reporting.

## Population figures

In 1993, Statistics Canada introduced a new series of population estimates that include non-permanent residents and adjustments for net census under-coverage. The series for provinces and territories comprises annual population estimates beginning with 1971.

In this report, the 1999 overall population estimates for Canada and provinces/territories by sex and age group are based on adjusted 1996 census data. Population estimates of Canadian-born Aboriginal people are based on Projections of Population with Aboriginal Ancestry, Canada, Provinces/Regions and Territories, 1991-2016 (Statistics Canada), and Population Projections of Registered Indians, 1991-2015 (Indian and Northern Affairs Canada). Population estimates of Foreign-born people by birthplace are based on intercensal population projections (Statistics Canada).

The 1999 population estimates of total Canadian-born people are calculated by subtracting the foreign-born figures from the total 1999 population estimates (Statistic Canada). The 1999 population estimates of Canadian-born non-Aboriginal people are calculated by subtracting the total Aboriginal estimates from total Canadian-born estimates.

## **Population**

Persons whose usual place of residence is somewhere in Canada or who are non-permanent residents. In census years this is the enumerated population adjusted for net census under-coverage, while population estimates are used for inter-census years.

## **Non-permanent residents**

The following five groups of persons residing in Canada, referred to globally as “non-permanent residents”, were added to the census population universe in 1991: persons claiming refugee status, persons holding a student authorization, persons holding an employment authorization, persons holding a minister’s permit and all non-Canadian-born dependants of the aforementioned individuals.

## **Net census under-coverage**

The difference between census under-coverage and census over-coverage. The former refers to persons not enumerated in the census but who were part of the census universe, while the latter refers to persons either enumerated more than once or enumerated but not part of the census universe. Under-coverage exceeds over coverage with few exceptions at all levels of demographic and geographic disaggregation.

## **More information**

More information on definitions used and coding instructions is available upon request from Tuberculosis Prevention and Control, Population and Public Health Branch at Health Canada. Medical terminology regarding bacteriological aspects, diagnosis, dissemination, treatment, prevention, screening and control of tuberculosis is well documented in the *Canadian Tuberculosis Standards, Fifth Edition, 2000*, available from the Canadian Lung Association<sup>1</sup>.

## **Reference**

1. Long R, ed. *Canadian tuberculosis standards*. 5th ed. Ottawa: Health Canada and the Canadian Lung Association, 2000. (Cat. H49-146/2000E).



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**Table 1A**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1989-1999**

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1989	Cases	<b>2035</b>	106	420	711	100	216	133	288	61
	Rate	<b>7.4</b>	4.5	6.0	7.0	9.0	21.1	5.3	9.0	71.8
1990	Cases	<b>1997</b>	86	412	730	92	223	156	265	33
	Rate	<b>7.2</b>	3.6	5.9	7.1	8.3	22.1	6.1	8.0	37.8
1991	Cases	<b>2018</b>	81	400	769	101	184	173	280	30
	Rate	<b>7.2</b>	3.4	5.6	7.3	9.1	18.3	6.7	8.3	33.2
1992	Cases	<b>2108</b>	68	424	822	86	133	222	323	30
	Rate	<b>7.4</b>	2.8	5.9	7.7	7.7	13.2	8.4	9.3	32.3
1993	Cases	<b>2012</b>	99	352	769	108	153	156	337	38
	Rate	<b>7.0</b>	4.1	4.9	7.1	9.6	15.1	5.8	9.4	40.3
1994	Cases	<b>2074</b>	42	361	831	116	147	178	324	75
	Rate	<b>7.1</b>	1.7	5.0	7.6	10.3	14.5	6.6	8.8	79.2
1995	Cases	<b>1931</b>	34	380	766	108	155	126	308	54
	Rate	<b>6.5</b>	1.4	5.2	6.9	9.5	15.3	4.6	8.2	55.9
1996	Cases	<b>1868</b>	57	332	771	97	113	140	316	42
	Rate	<b>6.3</b>	2.4	4.6	6.9	8.6	11.1	5.0	8.1	42.2
1997	Cases	<b>1977</b>	34	360	761	96	121	166	406	33
	Rate	<b>6.6</b>	1.4	4.9	6.8	8.4	11.8	5.8	10.2	33.0
1998	Cases	<b>1791</b>	37	289	724	116	98	158	329	40
	Rate	<b>5.9</b>	1.6	3.9	6.3	10.1	9.5	5.4	8.2	40.3
1999	Cases	<b>1807</b>	44	314	684	132	116	149	329	24
	Rate	<b>5.9</b>	1.9	4.3	5.9	11.5	11.3	5.0	8.2	24.1

**Table 1B****Reported new active tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1989-1999**

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1989	Cases	<b>1829</b>	85	407	627	87	203	121	252	47
	Rate	<b>6.7</b>	3.6	5.9	6.2	7.9	19.8	4.8	7.9	55.4
1990	Cases	<b>1788</b>	68	402	614	88	211	144	234	27
	Rate	<b>6.4</b>	2.9	5.7	5.9	7.9	20.9	5.6	7.1	30.9
1991	Cases	<b>1806</b>	69	382	661	89	170	152	253	30
	Rate	<b>6.4</b>	2.9	5.4	6.3	8	16.9	5.8	7.5	33.2
1992	Cases	<b>1865</b>	58	399	692	81	121	201	291	22
	Rate	<b>6.5</b>	2.4	5.6	6.5	7.2	12	7.6	8.4	23.7
1993	Cases	<b>1772</b>	90	311	653	95	145	143	304	31
	Rate	<b>6.1</b>	3.7	4.3	6	8.5	14.3	5.3	8.5	32.9
1994	Cases	<b>1838</b>	39	306	723	107	141	160	294	68
	Rate	<b>6.3</b>	1.6	4.2	6.6	9.5	13.9	5.9	8	71.8
1995	Cases	<b>1726</b>	28	348	657	96	143	116	290	48
	Rate	<b>5.8</b>	1.2	4.7	5.9	8.4	14.1	4.2	7.7	49.7
1996	Cases	<b>1671</b>	44	294	689	84	109	129	287	35
	Rate	<b>5.6</b>	1.8	4	6.2	7.4	10.7	4.6	7.4	35.2
1997	Cases	<b>1771</b>	28	323	687	86	110	150	361	26
	Rate	<b>5.9</b>	1.2	4.4	6.1	7.6	10.8	5.3	9.1	26.0
1998	Cases	<b>1617</b>	32	262	642	104	91	146	306	34
	Rate	<b>5.3</b>	1.3	3.6	5.6	9.1	8.8	5	7.6	34.3
1999	Cases	<b>1632</b>	38	278	604	123	110	141	305	18
	Rate	<b>5.3</b>	1.6	3.8	5.2	10.8	10.7	4.7	7.6	18.1

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: 1989-1999**

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1989	Cases	<b>206</b>	21	13	84	13	13	12	36	14
	Rate	<b>0.8</b>	0.9	0.2	0.8	1.2	1.3	0.5	1.1	16.5
1990	Cases	<b>180</b>	18	10	87	4	12	12	31	6
	Rate	<b>0.6</b>	0.8	0.1	0.8	0.4	1.2	0.5	0.9	6.9
1991	Cases	<b>206</b>	12	18	102	12	14	21	27	-
	Rate	<b>0.7</b>	0.5	0.3	1.0	1.1	1.4	0.8	0.8	-
1992	Cases	<b>241</b>	10	25	128	5	12	21	32	8
	Rate	<b>0.8</b>	0.4	0.3	1.2	0.4	1.2	0.8	0.9	8.6
1993	Cases	<b>238</b>	9	41	114	13	8	13	33	7
	Rate	<b>0.8</b>	0.4	0.6	1.1	1.2	0.8	0.5	0.9	7.4
1994	Cases	<b>228</b>	3	55	100	9	6	18	30	7
	Rate	<b>0.8</b>	0.1	0.8	0.9	0.8	0.6	0.7	0.8	7.4
1995	Cases	<b>195</b>	6	28	103	12	12	10	18	6
	Rate	<b>0.7</b>	0.2	0.4	0.9	1.1	1.2	0.4	0.5	6.2
1996	Cases	<b>178</b>	11	36	72	9	4	11	29	6
	Rate	<b>0.6</b>	0.5	0.5	0.6	0.8	0.4	0.4	0.7	6.0
1997	Cases	<b>197</b>	6	34	70	10	11	16	43	7
	Rate	<b>0.7</b>	0.3	0.5	0.6	0.9	1.1	0.6	1.1	7.0
1998	Cases	<b>156</b>	5	22	69	12	7	12	23	6
	Rate	<b>0.5</b>	0.2	0.3	0.6	1.0	0.7	0.4	0.6	6.0
1999	Cases	<b>158</b>	4	33	69	9	6	8	23	6
	Rate	<b>0.5</b>	0.2	0.4	0.6	0.8	0.6	0.3	0.6	6.0

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: 1989-1999**

Year of diagnosis		TOTAL	Age group										
			< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +	Age unk.
1989	Cases	<b>2035</b>	31	74	78	259	341	252	204	256	274	266	-
	Rate	<b>7.4</b>	8.1	4.9	2.1	6.2	6.7	6.0	7.3	10.6	15.0	22.1	-
1990	Cases	<b>1997</b>	44	91	66	208	400	240	181	244	280	243	-
	Rate	<b>7.2</b>	11.0	5.9	1.7	5.1	7.8	5.5	6.2	10.1	15.0	19.4	-
1991	Cases	<b>2018</b>	48	71	60	227	399	282	188	223	279	240	1
	Rate	<b>7.2</b>	11.9	4.6	1.6	5.6	7.8	6.3	6.2	9.2	14.5	18.6	-
1992	Cases	<b>2108</b>	25	83	85	242	405	286	191	224	276	290	1
	Rate	<b>7.4</b>	6.2	5.3	2.2	6.0	7.9	6.2	6.0	9.2	14.0	21.8	-
1993	Cases	<b>2012</b>	26	69	108	234	386	270	210	214	257	237	1
	Rate	<b>7.0</b>	6.6	4.3	2.7	5.8	7.6	5.7	6.2	8.7	12.7	17.3	-
1994	Cases	<b>2074</b>	20	72	98	274	411	261	224	212	271	231	-
	Rate	<b>7.1</b>	5.2	4.5	2.5	6.8	8.2	5.4	6.4	8.5	13.2	16.4	-
1995	Cases	<b>1931</b>	27	64	85	229	325	314	201	209	251	225	1
	Rate	<b>6.5</b>	7.1	4.0	2.1	5.7	6.6	6.4	5.5	8.3	12.0	15.3	-
1996	Cases	<b>1868</b>	11	68	63	214	356	304	191	193	250	218	-
	Rate	<b>6.3</b>	2.9	4.3	1.6	5.3	7.5	6.1	5.0	7.6	12.0	14.6	-
1997	Cases	<b>1977</b>	9	50	58	214	385	292	216	228	246	279	-
	Rate	<b>6.6</b>	2.5	3.2	1.4	5.3	8.2	5.7	5.5	8.8	11.7	18.0	-
1998	Cases	<b>1791</b>	19	61	71	186	307	302	180	171	235	259	-
	Rate	<b>5.9</b>	3.6	4.0	1.7	4.5	6.7	5.8	4.4	6.4	11.0	16.1	-
1999	Cases	<b>1807</b>	27	59	63	200	329	260	187	182	236	264	-
	Rate	<b>5.9</b>	7.9	4.0	1.5	4.8	7.4	4.9	4.4	6.7	11.1	15.9	-

**Table 2B**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada: 1989-1999**

Year of diagnosis		TOTAL	Age group										
			< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +	Age unk.
1989	Cases	<b>1152</b>	15	43	39	121	178	146	132	175	160	143	-
	Rate	<b>8.5</b>	7.7	5.5	2.0	5.7	6.9	6.9	9.3	14.8	19.6	31.7	-
1990	Cases	<b>1096</b>	16	41	33	112	217	130	117	140	161	129	-
	Rate	<b>8.0</b>	7.8	5.2	1.7	5.4	8.3	5.9	8.0	11.8	19.2	27.5	-
1991	Cases	<b>1174</b>	30	38	31	135	235	162	107	119	179	137	1
	Rate	<b>8.4</b>	14.5	4.8	1.6	6.6	9.1	7.2	7.1	9.9	20.8	28.2	-
1992	Cases	<b>1178</b>	16	39	35	129	222	178	116	133	157	153	-
	Rate	<b>8.3</b>	7.7	4.8	1.8	6.3	8.6	7.7	7.2	11.0	17.7	30.6	-
1993	Cases	<b>1135</b>	13	35	62	124	207	154	130	132	144	133	1
	Rate	<b>7.9</b>	6.5	4.2	3.1	6.0	8.1	6.5	7.7	10.9	15.8	25.9	-
1994	Cases	<b>1121</b>	9	36	52	140	203	151	133	117	150	130	-
	Rate	<b>7.7</b>	4.6	4.3	2.6	6.8	8.0	6.3	7.5	9.5	16.0	24.6	-
1995	Cases	<b>1044</b>	9	30	40	112	166	191	118	122	145	111	-
	Rate	<b>7.1</b>	4.6	3.7	2.0	5.5	6.7	7.7	6.4	9.8	15.2	20.2	-
1996	Cases	<b>1005</b>	7	32	35	106	180	158	106	104	144	133	-
	Rate	<b>6.8</b>	3.6	3.9	1.7	5.1	7.5	6.3	5.6	8.3	15.0	23.9	-
1997	Cases	<b>1052</b>	6	27	25	93	193	158	118	130	139	163	-
	Rate	<b>7.1</b>	3.3	3.4	1.2	4.5	8.2	6.2	6.0	10.2	14.3	28.2	-
1998	Cases	<b>963</b>	14	32	37	78	162	161	99	104	128	148	-
	Rate	<b>6.3</b>	3.8	4.1	1.8	3.7	7.0	6.2	4.9	8.0	13.0	24.7	-
1999	Cases	<b>992</b>	17	30	26	95	173	143	114	102	140	152	-
	Rate	<b>6.6</b>	9.8	3.9	1.2	4.5	7.7	5.4	5.4	7.6	14.1	24.4	-

**Table 2C**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada: 1989-1999**

Year of diagnosis		TOTAL	Age group										
			< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +	Age unk.
1989	Cases	<b>883</b>	16	31	39	138	163	106	72	81	114	123	-
	Rate	<b>6.4</b>	8.6	4.2	2.1	6.8	6.5	5.1	5.2	6.6	11.3	16.4	-
1990	Cases	<b>901</b>	28	50	33	96	183	110	64	104	119	114	-
	Rate	<b>6.4</b>	14.3	6.7	1.8	4.8	7.2	5.1	4.4	8.4	11.5	14.6	-
1991	Cases	<b>844</b>	18	33	29	92	164	120	81	104	100	103	-
	Rate	<b>6.0</b>	9.2	4.4	1.5	4.6	6.5	5.4	5.4	8.4	9.5	12.8	-
1992	Cases	<b>930</b>	9	44	50	113	183	108	75	91	119	137	1
	Rate	<b>6.5</b>	4.6	5.7	2.6	5.7	7.3	4.7	4.7	7.4	11.0	16.4	-
1993	Cases	<b>877</b>	13	34	46	110	179	116	80	82	113	104	-
	Rate	<b>6.0</b>	6.8	4.3	2.4	5.6	7.2	5.0	4.8	6.6	10.2	12.1	-
1994	Cases	<b>953</b>	11	36	46	134	208	110	91	95	121	101	-
	Rate	<b>6.5</b>	5.9	4.6	2.4	6.8	8.5	4.6	5.2	7.6	10.8	11.4	-
1995	Cases	<b>887</b>	18	34	45	117	159	123	83	87	106	114	1
	Rate	<b>5.9</b>	9.7	4.4	2.3	5.9	6.5	5.0	4.5	6.9	9.3	12.4	-
1996	Cases	<b>863</b>	4	36	28	108	176	146	85	89	106	85	-
	Rate	<b>5.8</b>	2.1	4.7	1.4	5.5	7.5	5.8	4.5	6.9	9.4	9.1	-
1997	Cases	<b>925</b>	3	23	33	121	192	134	98	98	107	116	-
	Rate	<b>6.1</b>	1.7	3.0	1.7	6.1	8.3	5.2	5.0	7.5	9.4	11.9	-
1998	Cases	<b>828</b>	5	29	34	108	145	141	81	67	107	111	-
	Rate	<b>5.4</b>	3.0	3.9	1.7	5.4	6.4	5.4	4.0	5.0	9.4	11.0	-
1999	Cases	<b>815</b>	10	29	37	105	156	117	73	80	96	112	-
	Rate	<b>5.3</b>	6.0	4.0	1.9	5.2	7.1	4.4	3.4	5.8	8.4	10.8	-

**Table 3****Reported new active and relapsed tuberculosis cases by birthplace – Canada: 1989-1999**

Birthplace		Year of diagnosis										
		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Canadian-born	Aboriginal											
	Status Indian	303	295	259	322	260	268	265	219	212	190	248
	Non-Status Indian/Métis	73	72	58	39	55	95	56	51	52	53	39
	Inuit	34	8	22	26	58	35	24	26	18	35	28
	<b>Total</b>	<b>410</b>	<b>375</b>	<b>339</b>	<b>387</b>	<b>373</b>	<b>398</b>	<b>345</b>	<b>296</b>	<b>282</b>	<b>278</b>	<b>315</b>
	Non-Aboriginal	666	682	670	587	576	490	435	371	401	348	324
	<b>Total</b>	<b>1076</b>	<b>1057</b>	<b>1009</b>	<b>974</b>	<b>949</b>	<b>888</b>	<b>780</b>	<b>667</b>	<b>683</b>	<b>626</b>	<b>639</b>
Foreign-born (WHO region)	Africa	57	52	70	73	53	68	60	57	92	90	78
	Americas	100	79	93	120	98	99	116	99	103	89	71
	East Mediterranean	63	90	103	108	112	152	113	146	114	102	111
	Europe	204	181	159	170	148	145	139	114	139	136	141
	South East Asia	108	103	114	133	159	167	164	176	198	193	194
	Western Pacific	293	435	470	508	491	551	519	553	570	505	511
	Unknown region	134	-	-	22	2	4	29	25	57	35	46
	<b>Total</b>	<b>959</b>	<b>940</b>	<b>1009</b>	<b>1134</b>	<b>1063</b>	<b>1186</b>	<b>1140</b>	<b>1170</b>	<b>1273</b>	<b>1150</b>	<b>1152</b>
Unknown birthplace	-	-	-	-	-	-	11	31	21	15	16	
<b>TOTAL</b>	<b>2035</b>	<b>1997</b>	<b>2018</b>	<b>2108</b>	<b>2012</b>	<b>2074</b>	<b>1931</b>	<b>1868</b>	<b>1977</b>	<b>1791</b>	<b>1807</b>	

**Table 4**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1989-1999**

Main diagnostic site		Year of diagnosis										
		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Primary	Cases	190	230	206	193	189	152	163	120	131	130	155
	Rate	0.7	0.8	0.7	0.7	0.7	0.5	0.6	0.4	0.4	0.4	0.5
Miliary/disseminated	Cases	47	67	43	60	58	65	48	57	73	41	38
	Rate	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Respiratory (pulm/other resp)*	Cases	1336	1183	1217	1351	1260	1325	1244	1155	1231	1150	1171
	Rate	4.9	4.3	4.3	4.7	4.4	4.5	4.2	3.9	4.1	3.8	3.8
Meninges and CNS	Cases	14	17	15	17	19	18	22	19	25	24	15
	Rate	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Peripheral lymph node	Cases	249	223	223	259	281	301	249	242	266	271	240
	Rate	0.9	0.8	0.8	0.9	1.0	1.0	0.8	0.8	0.9	0.9	0.8
Other sites*	Cases	199	220	242	220	202	206	199	263	248	165	180
	Rate	0.7	0.8	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.5	0.6
Unknown	Cases	-	57	72	8	3	7	6	12	3	10	8
	Rate	-	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>Cases</b>	<b>2035</b>	<b>1997</b>	<b>2018</b>	<b>2108</b>	<b>2012</b>	<b>2074</b>	<b>1931</b>	<b>1868</b>	<b>1977</b>	<b>1791</b>	<b>1807</b>
	<b>Rate</b>	<b>7.4</b>	<b>7.2</b>	<b>7.2</b>	<b>7.4</b>	<b>7.0</b>	<b>7.1</b>	<b>6.5</b>	<b>6.3</b>	<b>6.6</b>	<b>5.9</b>	<b>5.9</b>

\* Please refer to Technical Notes for definition.

**Table 5A**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada and provinces/territories: 1999**

Age group		CANADA								
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	27	1	2	1	2	19	1	-	1
	Rate	7.9	4.2	2.7	0.8	14.0	147.8	2.6	-	56.7
1 – 4	Cases	59	-	7	4	6	29	3	8	2
	Rate	4.0	-	2.1	0.7	9.8	52.7	1.9	4.3	27.3
5 – 14	Cases	63	3	9	13	9	15	3	5	6
	Rate	1.5	1.0	1.0	0.8	5.4	9.5	0.7	1.0	31.3
15 – 24	Cases	200	5	29	79	23	12	13	31	8
	Rate	4.8	1.5	2.9	5.2	14.5	7.8	3.0	5.8	52.2
25 – 34	Cases	329	4	53	165	21	9	31	41	5
	Rate	7.4	1.2	5.2	9.5	13.1	6.8	6.7	6.9	29.1
35 – 44	Cases	260	6	44	110	12	7	14	65	2
	Rate	4.9	1.5	3.4	5.5	6.6	4.4	2.6	9.3	11.7
45 – 54	Cases	187	1	30	68	21	5	21	39	2
	Rate	4.4	0.3	2.8	4.4	14.2	4.1	5.5	6.8	16.8
55 – 64	Cases	182	4	32	60	16	7	15	44	4
	Rate	6.7	1.8	4.5	5.8	16.6	8.4	6.6	12.1	70.2
65 – 74	Cases	236	10	47	85	13	9	22	46	4
	Rate	11.1	6.1	8.7	10.3	16.3	12.0	13.1	16.2	151.6
75 +	Cases	264	10	61	99	9	4	26	50	5
	Rate	15.9	7.2	15.8	15.9	11.9	5.4	20.6	21.2	382.0
TOTAL	Cases	1807	44	314	684	132	116	149	329	39
	Rate	5.9	1.9	4.3	5.9	11.5	11.3	5.0	8.2	39.2

**Table 5B**

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada and provinces/territories: 1999

Age group		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	17	-	1	1	1	13	1	-	-
	Rate	9.8	-	2.6	1.5	13.6	198.2	5.1	-	-
1 – 4	Cases	30	-	2	3	3	17	1	3	1
	Rate	3.9	-	1.2	1.0	9.6	60.6	1.2	3.1	25.9
5 – 14	Cases	26	1	5	5	3	5	2	1	4
	Rate	1.2	0.6	1.1	0.6	3.5	6.2	0.9	0.4	41.0
15 – 24	Cases	95	2	12	36	13	6	6	14	6
	Rate	4.5	1.2	2.4	4.7	16.1	7.6	2.7	5.1	75.0
25 – 34	Cases	173	1	33	82	15	7	14	18	3
	Rate	7.7	0.6	6.3	9.4	18.3	10.5	5.9	6.0	34.6
35 – 44	Cases	143	2	25	59	8	2	9	36	2
	Rate	5.4	1.0	3.8	5.9	8.7	2.5	3.3	10.3	22.5
45 – 54	Cases	114	-	22	38	16	2	11	23	2
	Rate	5.4	-	4.1	4.9	21.6	3.2	5.6	8.0	30.7
55 – 64	Cases	102	4	20	31	9	5	7	25	1
	Rate	7.6	3.7	5.8	6.1	18.9	12.1	6.1	13.9	32.6
65 – 74	Cases	140	6	31	46	6	7	11	29	4
	Rate	14.1	7.9	12.7	12.0	16.1	19.7	13.5	21.2	279.1
75 +	Cases	152	7	31	57	6	2	15	30	4
	Rate	24.4	13.4	22.7	24.3	20.9	6.8	30.6	32.6	661.2
TOTAL	Cases	992	23	182	358	80	66	77	179	27
	Rate	6.6	2.0	5.0	6.3	14.1	12.9	5.1	8.9	52.2



**Table 5C**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada and provinces/territories: 1999**

Age group		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	10	1	1	-	1	6	-	-	1
	Rate	6.0	8.6	2.8	-	14.4	95.3	-	-	116.4
1 – 4	Cases	29	-	5	1	3	12	2	5	1
	Rate	4.0	-	3.0	0.4	10.0	44.4	2.6	5.5	28.9
5 – 14	Cases	37	2	4	8	6	10	1	4	2
	Rate	1.9	1.3	0.9	1.0	7.4	13.0	0.5	1.6	21.2
15 – 24	Cases	105	3	17	43	10	6	7	17	2
	Rate	5.2	1.8	3.5	5.8	12.9	8.1	3.3	6.5	27.4
25 – 34	Cases	156	3	20	83	6	2	17	23	2
	Rate	7.1	1.8	4.0	9.6	7.7	3.0	7.6	7.8	23.5
35 – 44	Cases	117	4	19	51	4	5	5	29	-
	Rate	4.4	2.0	3.0	5.1	4.4	6.3	1.9	8.3	-
45 – 54	Cases	73	1	8	30	5	3	10	16	-
	Rate	3.4	0.6	1.5	3.8	6.7	5.0	5.3	5.6	-
55 – 64	Cases	80	-	12	29	7	2	8	19	3
	Rate	5.8	-	3.3	5.5	14.4	4.7	7.1	10.4	113.9
65 – 74	Cases	96	4	16	39	7	2	11	17	-
	Rate	8.4	4.6	5.4	8.9	16.5	5.1	12.7	11.6	-
75 +	Cases	112	3	30	42	3	2	11	20	1
	Rate	10.8	3.5	12.0	10.8	6.4	4.5	14.2	14.0	142.0
TOTAL	Cases	815	21	132	326	52	50	72	150	12
	Rate	5.3	1.7	3.5	5.6	9.0	9.7	4.9	7.4	25.1

**Table 6**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace - Canada and provinces/territories: 1999**

Birthplace			CANADA	Province/territory								
				Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North	
Canadian-born	Aboriginal											
	Status Indian	Cases	248	2	-	15	77	86	26	27	15	
		Rate	45.0	9.7	-	13.3	92.0	111.5	33.0	26.6	78.1	
	Non-Status Indian/Métis	Cases	39	-	4	-	2	15	14	3	1	
		Rate	6.1	-	3.8	-	3.5	34.5	13.2	3.0	16.4	
	Inuit	Cases	28	2	3	-	-	-	1	1	21	
		Rate	45.9	22.0	28.6	-	-	-	28.6	41.7	76.1	
	Total	Cases	315	4	7	15	79	101	41	31	37	
		Rate	25.1	6.4	4.0	4.8	55.4	83.3	21.8	15.3	70.0	
	Non-Aboriginal	Cases	324	19	126	77	18	9	19	54	2	
		Rate	1.4	0.9	2.0	0.9	2.1	1.1	0.8	1.9	5.0	
	Total	Cases	639	23	133	92	97	110	60	85	39	
		Rate	2.6	1.0	2.0	1.1	9.7	11.3	2.4	2.8	42.1	
	Foreign-born (WHO region)	Africa	Cases	78	-	28	37	2	-	7	4	-
Rate			45.0	-	116.4	39.5	46.3	-	51.3	12.2	-	
Americas		Cases	71	-	36	24	-	-	-	11	-	
		Rate	7.8	-	28.8	4.9	-	-	-	6.4	-	
East Mediterranean		Cases	111	1	17	78	2	1	8	4	-	
		Rate	32.0	16.3	35.2	41.6	23.1	29.0	29.3	6.1	-	
Europe		Cases	141	13	36	64	3	-	9	16	-	
		Rate	5.5	31.9	10.5	4.6	4.6	-	4.4	3.3	-	
South East Asia		Cases	194	1	16	104	4	-	15	54	-	
		Rate	51.6	15.9	31.2	51.0	42.4	-	50.7	76.2	-	
Western Pacific		Cases	511	3	43	253	24	5	50	133	-	
		Rate	44.2	15.3	27.1	40.3	82.8	44.3	54.9	60.9	-	

...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: 1999**

Birthplace			CANADA	Province/territory							
				Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Foreign-born (WHO region)	Unknown region	Cases	46	1	2	21	-	-	-	22	-
		Rate	-	-	-	-	-	-	-	-	-
	Total	Cases	1152	19	178	581	35	6	89	244	-
		Rate	20.8	20.8	23.7	19.3	25.1	11.2	20.4	23.4	-
Unknown birthplace		Cases	16	2	3	11	-	-	-	-	-
		Rate	-	-	-	-	-	-	-	-	-
TOTAL		Cases	1807	44	314	684	132	116	149	329	39
		Rate	5.9	1.9	4.3	5.9	11.5	11.3	5.0	8.2	39.2

**Table 7**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site - Canada and provinces/territories: 1999**

Main diagnostic site		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Primary	Cases	155	3	-	50	23	62	8	7	2
	Rate	0.5	0.1	-	0.4	2.0	6.0	0.3	0.2	2.0
Miliary/ disseminated	Cases	38	-	12	9	1	1	4	11	-
	Rate	0.1	-	0.2	0.1	0.1	0.1	0.1	0.3	-
Respiratory (pulm/other resp)*	Cases	1171	31	240	417	77	43	105	223	35
	Rate	3.8	1.3	3.3	3.6	6.7	4.2	3.5	5.5	35.2
Meninges and CNS	Cases	15	-	1	5	3	-	1	4	1
	Rate	0.0	-	0.0	0.0	0.3	-	0.0	0.1	1.0
Peripheral lymph node	Cases	240	1	28	118	16	5	18	54	-
	Rate	0.8	0.0	0.4	1.0	1.4	0.5	0.6	1.3	-
Other sites*	Cases	180	9	33	77	12	5	13	30	1
	Rate	0.6	0.4	0.4	0.7	1.0	0.5	0.4	0.7	1.0
Unknown	Cases	8	-	-	8	-	-	-	-	-
	Rate	0.0	-	-	0.1	-	-	-	-	-
TOTAL	Cases	1807	44	314	684	132	116	149	329	39
	Rate	5.9	1.9	4.3	5.9	11.5	11.3	5.0	8.2	39.2

\* Please refer to Technical Notes for definition.

**Table 8****Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 1999**

Birthplace		TOTAL	Age group											
			< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +		
Canadian-born	Aboriginal													
	Status Indian	Male	141	13	20	10	19	18	18	15	7	14	7	
		Female	107	7	15	14	15	13	13	8	8	6	8	
		<b>Total</b>	<b>248</b>	<b>20</b>	<b>35</b>	<b>24</b>	<b>34</b>	<b>31</b>	<b>31</b>	<b>23</b>	<b>15</b>	<b>20</b>	<b>15</b>	
	Non-Status Indian/Métis	Male	21	2	-	1	3	3	3	3	2	2	2	
		Female	18	-	2	2	2	2	2	2	2	1	3	
		<b>Total</b>	<b>39</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>5</b>	
	Inuit	Male	18	-	-	4	5	4	1	1	2	-	1	
		Female	10	1	1	2	1	2	2	-	1	-	-	
		<b>Total</b>	<b>28</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>-</b>	<b>1</b>	
	<b>Total</b>	<b>Male</b>	<b>180</b>	<b>15</b>	<b>20</b>	<b>15</b>	<b>27</b>	<b>25</b>	<b>22</b>	<b>19</b>	<b>11</b>	<b>16</b>	<b>10</b>	
		<b>Female</b>	<b>135</b>	<b>8</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>10</b>	<b>11</b>	<b>7</b>	<b>11</b>	
		<b>Total</b>	<b>315</b>	<b>23</b>	<b>38</b>	<b>33</b>	<b>45</b>	<b>42</b>	<b>39</b>	<b>29</b>	<b>22</b>	<b>23</b>	<b>21</b>	
	Non-Aboriginal	Male	198	1	8	4	7	14	24	27	30	42	41	
		Female	126	-	10	6	12	7	12	10	15	20	34	
<b>Total</b>		<b>324</b>	<b>1</b>	<b>18</b>	<b>10</b>	<b>19</b>	<b>21</b>	<b>36</b>	<b>37</b>	<b>45</b>	<b>62</b>	<b>75</b>		
<b>Total</b>	<b>Male</b>	<b>378</b>	<b>16</b>	<b>28</b>	<b>19</b>	<b>34</b>	<b>39</b>	<b>46</b>	<b>46</b>	<b>41</b>	<b>58</b>	<b>51</b>		
	<b>Female</b>	<b>261</b>	<b>8</b>	<b>28</b>	<b>24</b>	<b>30</b>	<b>24</b>	<b>29</b>	<b>20</b>	<b>26</b>	<b>27</b>	<b>45</b>		
	<b>Total</b>	<b>639</b>	<b>24</b>	<b>56</b>	<b>43</b>	<b>64</b>	<b>63</b>	<b>75</b>	<b>66</b>	<b>67</b>	<b>85</b>	<b>96</b>		
Foreign-born (WHO region)	Africa	Male	39	-	-	1	5	20	7	1	2	2	1	
		Female	39	-	-	-	8	18	7	4	1	1	-	
		<b>Total</b>	<b>78</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>13</b>	<b>38</b>	<b>14</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>1</b>	
	Americas	Male	43	-	2	1	6	12	10	3	2	2	5	
		Female	28	-	-	1	6	7	6	5	1	2	-	
		<b>Total</b>	<b>71</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>19</b>	<b>16</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>5</b>	

...cont'd

**Table 8** *Cont'd***Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 1999**

Birthplace			TOTAL	Age group									
				< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +
Foreign-born (WHO region)	East Mediterranean	Male	56	-	-	1	8	22	11	5	1	6	2
		Female	55	-	-	5	15	13	4	3	7	6	2
		<b>Total</b>	<b>111</b>	-	-	6	23	35	15	8	8	12	4
	Europe	Male	76	-	-	2	7	4	12	5	9	13	24
		Female	65	2	1	4	5	6	10	2	8	10	17
		<b>Total</b>	<b>141</b>	2	1	6	12	10	22	7	17	23	41
	South East Asia	Male	99	-	-	2	11	27	11	16	14	11	7
		Female	95	-	-	1	20	26	12	9	6	10	11
		<b>Total</b>	<b>194</b>	-	-	3	31	53	23	25	20	21	18
	Western Pacific	Male	263	1	-	-	22	43	44	35	27	42	49
		Female	248	-	-	2	18	58	47	30	29	35	29
		<b>Total</b>	<b>511</b>	1	-	2	40	101	91	65	56	77	78
	Unknown region	Male	28	-	-	-	1	6	1	2	5	5	8
		Female	18	-	-	-	2	4	1	-	2	4	5
		<b>Total</b>	<b>46</b>	-	-	-	3	10	2	2	7	9	13
<b>Total</b>	<b>Male</b>	<b>604</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>60</b>	<b>134</b>	<b>96</b>	<b>67</b>	<b>60</b>	<b>81</b>	<b>96</b>	
	<b>Female</b>	<b>548</b>	<b>2</b>	<b>1</b>	<b>13</b>	<b>74</b>	<b>132</b>	<b>87</b>	<b>53</b>	<b>54</b>	<b>68</b>	<b>64</b>	
	<b>Total</b>	<b>1152</b>	<b>3</b>	<b>3</b>	<b>20</b>	<b>134</b>	<b>266</b>	<b>183</b>	<b>120</b>	<b>114</b>	<b>149</b>	<b>160</b>	
Unknown birthplace		Male	10	-	-	-	1	-	1	1	1	5	
		Female	6	-	-	-	1	-	1	-	-	1	3
		<b>Total</b>	<b>16</b>	-	-	-	2	-	2	1	1	2	8
<b>TOTAL</b>		<b>Male</b>	<b>992</b>	<b>17</b>	<b>30</b>	<b>26</b>	<b>95</b>	<b>173</b>	<b>143</b>	<b>114</b>	<b>102</b>	<b>140</b>	<b>152</b>
		<b>Female</b>	<b>815</b>	<b>10</b>	<b>29</b>	<b>37</b>	<b>105</b>	<b>156</b>	<b>117</b>	<b>73</b>	<b>80</b>	<b>96</b>	<b>112</b>
		<b>Total</b>	<b>1807</b>	<b>27</b>	<b>59</b>	<b>63</b>	<b>200</b>	<b>329</b>	<b>260</b>	<b>187</b>	<b>182</b>	<b>236</b>	<b>264</b>

**Table 9**

**Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group and main diagnostic site – Canada: 1999**

Age group		TOTAL	Main diagnostic site						
			Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown
< 1	Cases	27	22	-	4	-	-	1	-
	Rate	7.9	6.5	-	1.2	-	-	0.3	-
1 – 4	Cases	59	45	-	8	1	3	2	-
	Rate	4.0	3.0	-	0.5	0.1	0.2	0.1	-
5 – 14	Cases	63	29	1	22	1	7	3	-
	Rate	1.5	0.7	0.0	0.5	0.0	0.2	0.1	-
15 – 24	Cases	200	19	5	130	2	25	16	3
	Rate	4.8	0.5	0.1	3.1	0.0	0.6	0.4	0.1
25 – 34	Cases	329	11	8	210	1	60	37	2
	Rate	7.4	0.2	0.2	4.7	0.0	1.3	0.8	0.0
35 – 44	Cases	260	6	7	177	1	42	26	1
	Rate	4.9	0.1	0.1	3.3	0.0	0.8	0.5	0.0
45 – 54	Cases	187	4	2	117	2	44	18	-
	Rate	4.4	0.1	0.0	2.8	0.0	1.0	0.4	-
55 – 64	Cases	182	7	3	124	2	28	17	1
	Rate	6.7	0.3	0.1	4.5	0.1	1.0	0.6	0.0
65 – 74	Cases	236	6	1	174	2	21	31	1
	Rate	11.1	0.3	0.0	8.2	0.1	1.0	1.5	0.0
75 +	Cases	264	6	11	205	3	10	29	-
	Rate	15.9	0.4	0.7	12.3	0.2	0.6	1.7	-
TOTAL	Cases	1807	155	38	1171	15	240	180	8
	Rate	5.9	0.5	0.1	3.8	0.0	0.8	0.6	0.0

\* Please refer to Technical Notes for definition.

**Table 10****Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 1999**

Birthplace		TOTAL	Main diagnostic site						
			Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown
Canadian-born	Aboriginal								
	Status Indian	248	88	4	122	2	20	12	-
	Non-Status Indian/Métis	39	6	2	28	-	1	2	-
	Inuit	28	1	-	25	1	-	1	-
	<b>Total</b>	<b>315</b>	<b>95</b>	<b>6</b>	<b>175</b>	<b>3</b>	<b>21</b>	<b>15</b>	<b>-</b>
	Non-Aboriginal	324	27	7	237	3	14	36	-
	<b>Total</b>	<b>639</b>	<b>122</b>	<b>13</b>	<b>412</b>	<b>6</b>	<b>35</b>	<b>51</b>	<b>-</b>
Foreign-born (WHO region)	Africa	78	1	4	51	-	15	6	1
	Americas	71	-	3	48	1	14	5	-
	East Mediterranean	111	2	2	63	-	19	22	3
	Europe	141	11	5	101	1	10	12	1
	South East Asia	194	4	-	127	1	38	23	1
	Western Pacific	511	11	8	335	5	102	48	2
	Unknown region	46	2	3	25	1	7	8	-
	<b>Total</b>	<b>1152</b>	<b>31</b>	<b>25</b>	<b>750</b>	<b>9</b>	<b>205</b>	<b>124</b>	<b>8</b>
Unknown birthplace		16	2	-	9	-	-	5	-
<b>TOTAL</b>		<b>1807</b>	<b>155</b>	<b>38</b>	<b>1171</b>	<b>15</b>	<b>240</b>	<b>180</b>	<b>8</b>

\* Please refer to Technical Notes for definition.



**Table 11****Reported new active and relapsed tuberculosis cases by birthplace and activity status – Canada: 1999**

Birthplace		TOTAL	Activity status		
			New active cases	Relapsed cases	Unknown status
Canadian-born	Aboriginal				
	Status Indian	248	231	17	-
	Non-Status Indian/Métis	39	32	7	-
	Inuit	28	26	2	-
	<b>Total</b>	<b>315</b>	<b>289</b>	<b>26</b>	<b>-</b>
	Non-Aboriginal	324	278	43	3
	<b>Total</b>	<b>639</b>	<b>567</b>	<b>69</b>	<b>3</b>
Foreign-born (WHO region)	Africa	78	72	5	1
	Americas	71	67	4	-
	East Mediterranean	111	101	7	3
	Europe	141	124	16	1
	South East Asia	194	184	9	1
	Western Pacific	511	463	46	2
	Unknown region	46	43	1	2
	<b>Total</b>	<b>1152</b>	<b>1054</b>	<b>88</b>	<b>10</b>
Unknown birthplace		16	11	1	4
<b>TOTAL</b>		<b>1807</b>	<b>1632</b>	<b>158</b>	<b>17</b>

**Table 12****Reported new active and relapsed tuberculosis cases by bacillary status – Canada and provinces/territories: 1999**

Bacillary status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1. Culture positive									
a. Microscopy positive	618	17	143	224	40	25	49	112	8
b. Microscopy negative	446	11	75	130	46	19	47	102	16
c. Microscopy not done/unk.	412	6	55	221	12	50	19	48	1
<b>Total</b>	<b>1476</b>	<b>34</b>	<b>273</b>	<b>575</b>	<b>98</b>	<b>94</b>	<b>115</b>	<b>262</b>	<b>25</b>
2. Culture negative									
a. Microscopy positive	10	-	2	4	2	-	-	2	-
b. Microscopy negative	130	6	18	19	22	-	17	37	11
c. Microscopy not done/unk.	17	-	2	7	-	6	-	2	-
<b>Total</b>	<b>157</b>	<b>6</b>	<b>22</b>	<b>30</b>	<b>24</b>	<b>6</b>	<b>17</b>	<b>41</b>	<b>11</b>
3. Culture not done/unk.									
a. Microscopy positive	22	2	3	8	4	1	2	2	-
b. Microscopy negative	13	-	-	12	-	-	-	1	-
c. Microscopy not done/unk.	139	2	16	59	6	15	15	23	3
<b>Total</b>	<b>174</b>	<b>4</b>	<b>19</b>	<b>79</b>	<b>10</b>	<b>16</b>	<b>17</b>	<b>26</b>	<b>3</b>
<b>TOTAL</b>	<b>1807</b>	<b>44</b>	<b>314</b>	<b>684</b>	<b>132</b>	<b>116</b>	<b>149</b>	<b>329</b>	<b>39</b>

**Table 13****Reported new active and relapsed tuberculosis cases by bacillary status and birthplace – Canada: 1999**

Bacillary status	TOTAL	Birthplace			
		Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
1. Culture positive					
a. Microscopy positive	618	93	120	400	5
b. Microscopy negative	446	82	83	279	2
c. Microscopy not done/unk.	412	69	56	281	6
<b>Total</b>	<b>1476</b>	<b>244</b>	<b>259</b>	<b>960</b>	<b>13</b>
2. Culture negative					
a. Microscopy positive	10	2	2	6	-
b. Microscopy negative	130	40	17	73	-
c. Microscopy not done/unk.	17	3	5	9	-
<b>Total</b>	<b>157</b>	<b>45</b>	<b>24</b>	<b>88</b>	<b>-</b>
3. Culture not done/unk.					
a. Microscopy positive	22	1	9	11	1
b. Microscopy negative	13	1	1	10	1
c. Microscopy not done/unk.	139	24	31	83	1
<b>Total</b>	<b>174</b>	<b>26</b>	<b>41</b>	<b>104</b>	<b>3</b>
<b>TOTAL</b>	<b>1807</b>	<b>315</b>	<b>324</b>	<b>1152</b>	<b>16</b>

**Table 14****Reported new active and relapsed tuberculosis cases by bacillary status and main diagnostic site – Canada: 1999**

Bacillary status	TOTAL	Main diagnostic site						
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown
1. Culture positive								
a. Microscopy positive	618	19	23	491	2	45	37	1
b. Microscopy negative	446	17	9	367	3	35	14	1
c. Microscopy not done/unk.	412	63	3	138	3	115	87	3
<b>Total</b>	<b>1476</b>	<b>99</b>	<b>35</b>	<b>996</b>	<b>8</b>	<b>195</b>	<b>138</b>	<b>5</b>
2. Culture negative								
a. Microscopy positive	10	-	-	6	-	1	3	-
b. Microscopy negative	130	24	1	82	3	13	5	2
c. Microscopy not done/unk.	17	-	-	11	1	1	4	-
<b>Total</b>	<b>157</b>	<b>24</b>	<b>1</b>	<b>99</b>	<b>4</b>	<b>15</b>	<b>12</b>	<b>2</b>
3. Culture not done/unk.								
a. Microscopy positive	22	1	-	11	1	7	2	-
b. Microscopy negative	13	1	-	10	-	-	2	-
c. Microscopy not done/unk.	139	30	2	55	2	23	26	1
<b>Total</b>	<b>174</b>	<b>32</b>	<b>2</b>	<b>76</b>	<b>3</b>	<b>30</b>	<b>30</b>	<b>1</b>
<b>TOTAL</b>	<b>1807</b>	<b>155</b>	<b>38</b>	<b>1171</b>	<b>15</b>	<b>240</b>	<b>180</b>	<b>8</b>

\* Please refer to Technical Notes for definition.

**Table 15**

**Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting – Canada and provinces/territories\*: 1999**

Drug pattern	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
<b>Total positive cultures</b>	<b>1476 (100)</b>	<b>34 (100)</b>	<b>273 (100)</b>	<b>575 (100)</b>	<b>98 (100)</b>	<b>94 (100)</b>	<b>115 (100)</b>	<b>262 (100)</b>	<b>25 (100)</b>
No resistance	1314 (89.0)	33 (97.0)	237 (86.8)	485 (84.3)	89 (90.8)	93 (98.9)	107 (93.0)	245 (93.5)	25 (100)
Resistance to one or more drugs	162 (11.0)	1 (3.0)	36 (13.2)	90 (15.6)	9 (9.2)	1 (1.1)	8 (7.0)	17 (6.5)	-
<b>Mono-resistance</b>									
INH	64 (4.3)	1 (3.0)	12 (4.4)	34 (5.9)	3 (3.1)	-	3 (2.6)	11 (4.2)	-
SM	23 (1.6)	-	1 (0.4)	14 (2.4)	2 (2.0)	-	4 (3.5)	2 (0.8)	-
EMB	1 (0.1)	-	-	1 (0.2)	-	-	-	-	-
RMP	2 (0.1)	-	1 (0.4)	-	-	-	-	1 (0.4)	-
PZA	17 (1.2)	-	12 (4.4)	4 (0.7)	-	1 (1.1)	-	-	-
<b>Total mono-resistance</b>	<b>107 (7.2)</b>	<b>1 (3.0)</b>	<b>26 (9.5)</b>	<b>53 (9.2)</b>	<b>5 (5.1)</b>	<b>1 (1.1)</b>	<b>7 (6.1)</b>	<b>14 (5.3)</b>	<b>-</b>
<b>Multi-drug resistant (MDR) TB**</b>									
INH & RMP	4 (0.3)	-	1 (0.4)	3 (0.5)	-	-	-	-	-
INH & SM & RMP	3 (0.2)	-	-	3 (0.5)	-	-	-	-	-
INH & EMB & RMP	1 (0.1)	-	-	1 (0.2)	-	-	-	-	-

\* Not all provinces routinely test for resistance to all first-line anti-tuberculosis drugs (see Technical Notes).

\*\* MDR-TB is defined as resistance to at least INH and RMP.

...cont'd

**Table 15** *Cont'd*

**Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting – Canada and provinces/territories\*: 1999**

Drug pattern	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
INH & SM & EMB & RMP	1 (0.1)	-	-	1 (0.2)	-	-	-	-	-
INH & EMB & RMP & PZA	1 (0.1)	-	1 (0.4)	-	-	-	-	-	-
INH & SM & RMP & PZA	1 (0.1)	-	-	-	1 (1.0)	-	-	-	-
INH & SM & EMB & RMP & PZA	2 (0.1)	-	-	2 (0.3)	-	-	-	-	-
<b>Total MDR-TB**</b>	<b>13 (0.9)</b>	<b>-</b>	<b>2 (0.7)</b>	<b>10 (1.8)</b>	<b>1 (1.0)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Other patterns</b>									
INH & SM	26 (1.8)	-	6 (2.2)	17 (3.0)	1 (1.0)	-	1 (0.9)	1 (0.4)	-
INH & EMB	4 (0.3)	-	-	3 (0.5)	-	-	-	1 (0.4)	-
SM & RMP	1 (0.1)	-	-	-	-	-	-	1 (0.4)	-
INH & SM & EMB	6 (0.5)	-	-	5 (0.9)	1 (1.0)	-	-	-	-
INH & PZA	2 (0.1)	-	1 (0.4)	1 (0.2)	-	-	-	-	-
INH & SM & PZA	3 (0.2)	-	1 (0.4)	1 (0.2)	1 (1.0)	-	-	-	-
<b>Total other patterns</b>	<b>42 (2.8)</b>	<b>-</b>	<b>8 (2.9)</b>	<b>27 (4.7)</b>	<b>3 (3.1)</b>	<b>-</b>	<b>1 (0.9)</b>	<b>3 (1.1)</b>	<b>-</b>

\* Not all provinces routinely test for resistance to all first-line anti-tuberculosis drugs (see Technical Notes).

\*\* MDR-TB is defined as resistance to at least INH and RMP.

**Table 16**

**Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting by birthplace – Canada\*: 1999**

Drug pattern	TOTAL No. (%)	Canadian-born		Foreign-born No. (%)	Unknown birthplace No. (%)
		Aboriginal No. (%)	Non-Aboriginal No. (%)		
<b>Total positive cultures</b>	<b>1476 (100)</b>	<b>244 (16.5)</b>	<b>259 (17.5)</b>	<b>960 (65.0)</b>	<b>13 (0.9)</b>
<b>No resistance</b>	<b>1314 (89.0)</b>	<b>243 (16.5)</b>	<b>232 (15.7)</b>	<b>826 (56.0)</b>	<b>13 (0.9)</b>
<b>Resistance to one or more drugs</b>	<b>162 (11.0)</b>	<b>1 (0.1)</b>	<b>27 (1.8)</b>	<b>134 (9.1)</b>	<b>-</b>
<b>Mono-resistance</b>					
INH	64 (4.3)	-	10 (0.7)	54 (3.7)	-
SM	23 (1.6)	1 (0.1)	-	22 (1.5)	-
EMB	1 (0.1)	-	1 (0.1)	-	-
RMP	2 (0.1)	-	-	2 (0.1)	-
PZA	17 (1.2)	-	12 (0.8)	5 (0.3)	-
<b>Total mono-resistance</b>	<b>107 (7.2)</b>	<b>1 (0.1)</b>	<b>23 (1.6)</b>	<b>83 (5.6)</b>	<b>-</b>
<b>Multi-drug resistant (MDR) TB**</b>					
INH & RMP	4 (0.3)	-	1 (0.1)	3 (0.3)	-
INH & SM & RMP	3 (0.2)	-	-	3 (0.3)	-
INH & EMB & RMP	1 (0.1)	-	-	1 (0.1)	-
INH & SM & EMB & RMP	1 (0.1)	-	-	1 (0.1)	-
INH & EMB & RMP & PZA	1 (0.1)	-	-	1 (0.1)	-
INH & SM & RMP & PZA	1 (0.1)	-	-	1 (0.1)	-
INH & SM & EMB & RMP & PZA	2 (0.1)	-	-	2 (0.1)	-
<b>Total MDR-TB**</b>	<b>13 (0.9)</b>	<b>-</b>	<b>1 (0.1)</b>	<b>12 (0.8)</b>	<b>-</b>
<b>Other patterns</b>					
INH & SM	26 (1.8)	-	2 (0.1)	24 (1.6)	-
INH & EMB	4 (0.3)	-	-	4 (0.3)	-

\* Not all provinces routinely test for resistance to all first-line anti-tuberculosis drugs (see Technical Notes).

\*\* MDR-TB is defined as resistance to at least INH and RMP.

...cont'd

**Table 16** *Cont'd***Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting by birthplace – Canada\*: 1999**

Drug pattern	TOTAL	Canadian-born		Foreign-born	Unknown birthplace
		Aboriginal	Non-Aboriginal		
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
SM & RMP	1 (0.1)	-	-	1 (0.1)	-
INH & SM & EMB	6 (0.5)	-	1 (0.1)	5 (0.3)	-
INH & PZA	2 (0.1)	-	-	2 (0.1)	-
INH & SM & PZA	3 (0.2)	-	-	3 (0.2)	-
<b>Total other patterns</b>	<b>42 (2.8)</b>	<b>-</b>	<b>3 (0.2)</b>	<b>39 (2.6)</b>	<b>-</b>

\* Not all provinces routinely test for resistance to all first-line anti-tuberculosis drugs (see Technical Notes).

\*\* MDR-TB is defined as resistance to at least INH and RMP.

**Table 17****Reported new active and relapsed tuberculosis cases by method of detection – Canada and provinces/territories: 1999**

Method of detection	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Immigration	89	5	15	41	5	-	3	20	-
Symptoms/incidental findings	1420	28	233	549	93	116	114	266	21
Post-mortem	23	1	7	2	2	-	3	8	-
Contact investigation	128	3	19	24	27	-	22	21	12
Occupational screening	5	-	-	-	1	-	3	1	-
Other screening	70	6	10	30	3	-	3	13	5
Routine screening	-	-	-	-	-	-	-	-	-
Other	36	-	-	34	1	-	-	-	1
Unknown	36	1	30	4	-	-	1	-	-
<b>TOTAL</b>	<b>1807</b>	<b>44</b>	<b>314</b>	<b>684</b>	<b>132</b>	<b>116</b>	<b>149</b>	<b>329</b>	<b>39</b>



**Table 18****Reported new active and relapsed tuberculosis cases by method of detection and birthplace – Canada: 1999**

Method of detection	TOTAL	Birthplace					
		Canadian-born				Foreign-born	Unknown birthplace
		Status Indian	Non-Status Indian/Métis	Inuit	Non-Aboriginal		
Immigration	89	-	-	-	-	89	-
Symptoms/incidental findings	1420	190	31	17	246	925	11
Post-mortem	23	4	-	-	8	10	1
Contact investigation	128	47	6	5	36	34	-
Screening	75	4	2	6	11	52	-
Other	36	2	-	-	6	27	1
Unknown	36	1	-	-	17	15	3
<b>TOTAL</b>	<b>1807</b>	<b>248</b>	<b>39</b>	<b>28</b>	<b>324</b>	<b>1152</b>	<b>16</b>

**Table 19****Reported new active and relapsed foreign-born tuberculosis cases by birthplace and year of arrival in Canada: 1999**

Birthplace (WHO region)	TOTAL	Year of arrival											
		≤ 1962	1963-1972	1973-1982	1983-1992	1993	1994	1995	1996	1997	1998	1999	Unk.
Africa	78	-	2	1	21	3	4	3	4	8	9	19	4
Americas	71	3	4	11	17	7	3	5	6	4	3	6	2
East Mediterranean	111	1	3	4	29	2	7	9	10	14	12	14	6
Europe	141	44	17	9	10	2	1	2	2	3	3	36	12
South East Asia	194	1	3	16	56	9	13	12	2	22	17	32	10
Western Pacific	511	6	25	79	177	25	34	28	32	27	30	27	21
Unknown region	46	4	1	1	4	-	1	-	-	2	-	2	31
<b>TOTAL</b>	<b>1152</b>	<b>59</b>	<b>55</b>	<b>121</b>	<b>314</b>	<b>48</b>	<b>63</b>	<b>59</b>	<b>56</b>	<b>80</b>	<b>74</b>	<b>136</b>	<b>86</b>

**Table 20**

**Reported new active and relapsed foreign-born tuberculosis cases by immigration status – Canada and provinces/territories: 1999**

Immigration status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Landed immigrant or Canadian citizen	355	3	38	2	34	-	84	194	-
Refugee claimant	30	13	13	1	-	-	-	3	-
Non-resident (visitor, student, illegal alien)	18	-	1	-	1	-	3	13	-
Other	6	1	2	-	-	-	1	2	-
Unknown	743	2	124	578	-	6	1	32	-
<b>TOTAL</b>	<b>1152</b>	<b>19</b>	<b>178</b>	<b>581</b>	<b>35</b>	<b>6</b>	<b>89</b>	<b>244</b>	<b>-</b>

**Table 21**

**Reported relapsed tuberculosis cases by length of inactive interval – Canada and provinces/territories: 1999**

Interval	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 2 years	6	1	3	-	-	-	-	2	-
2-5 years	10	1	1	-	3	1	1	3	-
6-9 years	2	-	-	-	-	-	1	-	1
10-19 years	4	-	-	-	-	1	1	1	1
20+ years	33	1	3	-	2	3	4	16	4
Unknown	103	1	26	69	4	1	1	1	-
<b>TOTAL</b>	<b>158</b>	<b>4</b>	<b>33</b>	<b>69</b>	<b>9</b>	<b>6</b>	<b>8</b>	<b>23</b>	<b>6</b>

**Table 22****Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 1999**

Main diagnostic site (expanded)	Multiple site(s)	Main diagnostic site						
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)	Meninges/ CNS	Peripheral lymph nodes	Other sites	Unknown
Primary	Primary only	150	-	-	-	-	-	-
	Primary & miliary	1	-	-	-	-	-	-
	Primary & pulmonary	2	-	-	-	-	-	-
	Primary & peripheral lymph nodes	1	-	-	-	-	-	-
	Primary & other non-respiratory	1	-	-	-	-	-	-
	<b>Total</b>	<b>155</b>	-	-	-	-	-	-
Miliary	Miliary only	-	26	-	-	-	-	-
	Miliary & pulmonary & pleurisy	-	1	-	-	-	-	-
	Miliary & meninges/CNS	-	1	-	-	-	-	-
	Miliary & peripheral lymph nodes	-	1	-	-	-	-	-
	Miliary & pulmonary & peripheral lymph nodes	-	1	-	-	-	-	-
	Miliary & abdominal	-	1	-	-	-	-	-
	Miliary & bones/joints	-	1	-	-	-	-	-
	Miliary & pulmonary & genitourinary	-	2	-	-	-	-	-
	Miliary & meninges/CNS & genitourinary	-	1	-	-	-	-	-
	Miliary & other non-respiratory	-	2	-	-	-	-	-
	Miliary & pulmonary & genitourinary & other non-respiratory	-	1	-	-	-	-	-
	<b>Total</b>	-	<b>38</b>	-	-	-	-	-
Pulmonary	Pulmonary only	-	-	1012	-	-	-	-
	Pulmonary & pleurisy	-	-	31	-	-	-	-
	Pulmonary & other respiratory	-	-	6	-	-	-	-
	Pulmonary & meninges/CNS	-	-	6	-	-	-	-
	Pulmonary & peripheral lymph nodes	-	-	15	-	-	-	-
	Pulmonary & pleurisy & peripheral lymph nodes	-	-	1	-	-	-	-
	Pulmonary & abdominal	-	-	4	-	-	-	-

...cont'd

**Table 22** *Cont'd***Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 1999**

Main diagnostic site (expanded)	Multiple site(s)	Main diagnostic site						
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)	Meninges/ CNS	Peripheral lymph nodes	Other sites	Unknown
Pulmonary <i>(cont'd)</i>	Pulmonary & meninges/CNS & abdominal	-	-	1	-	-	-	-
	Pulmonary & bones/joints	-	-	2	-	-	-	-
	Pulmonary & genitourinary	-	-	5	-	-	-	-
	Pulmonary & pleurisy & genitourinary	-	-	1	-	-	-	-
	Pulmonary & other non-respiratory	-	-	1	-	-	-	-
	Pulmonary & pleurisy & other non-respiratory	-	-	1	-	-	-	-
	Pulmonary & peripheral lymph nodes & other non-respiratory	-	-	1	-	-	-	-
	Pulmonary & genitourinary & other non-respiratory	-	-	1	-	-	-	-
<b>Total</b>	-	-	<b>1088</b>	-	-	-	-	
Pleurisy	Pleurisy only	-	-	67	-	-	-	-
	Pleurisy & peripheral lymph nodes	-	-	1	-	-	-	-
	Pleurisy & other non-respiratory	-	-	1	-	-	-	-
	<b>Total</b>	-	-	<b>69</b>	-	-	-	-
Other respiratory	Other respiratory only	-	-	14	-	-	-	-
	<b>Total</b>	-	-	<b>14</b>	-	-	-	-
Meninges/ CNS	Meninges/CNS only	-	-	-	14	-	-	-
	Meninges/CNS & bones/joints	-	-	-	1	-	-	-
	<b>Total</b>	-	-	-	<b>15</b>	-	-	-
Peripheral lymph nodes	Peripheral lymph nodes only	-	-	-	-	234	-	-
	Peripheral lymph nodes & abdominal	-	-	-	-	3	-	-
	Peripheral lymph nodes & bones/joints	-	-	-	-	1	-	-
	Peripheral lymph nodes & other non-respiratory	-	-	-	-	2	-	-
<b>Total</b>	-	-	-	-	<b>240</b>	-	-	

...cont'd

**Table 22** *Cont'd***Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 1999**

Main diagnostic site (expanded)	Multiple site(s)	Main diagnostic site						
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)	Meninges/ CNS	Peripheral lymph nodes	Other sites	Unknown
Abdominal	Abdominal only	-	-	-	-	-	34	-
	Abdominal & bones/joints	-	-	-	-	-	1	-
	<b>Total</b>	-	-	-	-	-	<b>35</b>	-
Bones/joints	Bones/joints only	-	-	-	-	-	41	-
	Bones/joints & other non-respiratory	-	-	-	-	-	3	-
	<b>Total</b>	-	-	-	-	-	<b>44</b>	-
Genitourinary	Genitourinary only	-	-	-	-	-	45	-
	<b>Total</b>	-	-	-	-	-	<b>45</b>	-
Other non-respiratory	Other non-respiratory only	-	-	-	-	-	56	-
	<b>Total</b>	-	-	-	-	-	<b>56</b>	-
Unknown	<b>Total</b>	-	-	-	-	-	-	<b>8</b>
<b>Total</b>		<b>155</b>	<b>38</b>	<b>1171</b>	<b>15</b>	<b>240</b>	<b>180</b>	<b>8</b>

**Table 23**

**Reported new active and relapsed tuberculosis cases reported in 1999 who died in 1999\*, by cause of death – Canada and provinces/territories: 1999**

Cause of death	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
TB was underlying cause of death	26	1	3	12	2	2		4	2
TB contributed to death but was not the underlying cause	52	1	13	13	5	2	8	10	-
TB did not contribute to death	43	2	8	19	2	-	2	10	-
Cause not reported	8	1	1	5	-	-	-	1	-
<b>TOTAL</b>	<b>129</b>	<b>5</b>	<b>25</b>	<b>49</b>	<b>9</b>	<b>4</b>	<b>10</b>	<b>25</b>	<b>2</b>

NB: These numbers are based on number of known deaths at time of reporting.

\* See Technical Notes.

**Table 24**

**Reported new active and relapsed tuberculosis cases reported in 1999 who died in 1999\*, by age group and gender – Canada: 1999**

Gender	TOTAL	Age group									
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +
Male	79	-	-	-	-	2	5	7	10	16	39
Female	50	-	-	-	-	1	6	3	5	10	25
<b>TOTAL</b>	<b>129</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>11</b>	<b>10</b>	<b>15</b>	<b>26</b>	<b>64</b>

NB: These numbers are based on number of known deaths at time of reporting.

\* See Technical Notes.

**Table 25****Reported new active and relapsed tuberculosis cases by HIV status – Canada and provinces/territories: 1999**

HIV status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Positive	25	-	-	4	2	-	-	18	1
Negative	209	4	-	-	53	-	54	82	16
Unknown	1573	40	314	680	77	116	95	229	22
<b>TOTAL</b>	<b>1807</b>	<b>44</b>	<b>314</b>	<b>684</b>	<b>132</b>	<b>116</b>	<b>149</b>	<b>329</b>	<b>39</b>

**Table 26****Treatment outcome status – Canada and provinces/territories: 1998**

	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
<b>CANADA</b>	<b>1791</b>	<b>199</b>	<b>450</b>	<b>78</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>25</b>	<b>982</b>
<b>Province/territory</b>									
Atlantic	37	6	19	4	2	-	-	2	4
Quebec	289	-	31	6	3	1	-	4	244
Ontario	724	-	1	-	-	-	-	-	723
Manitoba	116	17	80	10	-	4	2	1	2
Saskatchewan	98	6	77	4	1	1	-	9	-
Alberta	158	47	75	20	2	1	11	2	-
British Columbia	329	104	150	30	27	2	-	7	9
North	40	19	17	4	-	-	-	-	-

**Table 27****Treatment outcome status by treatment regimen – Canada: 1998**

Treatment regimen	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
INH & EMB	3	1	2	-	-	-	-	-	-
INH & RMP	100	9	73	8	3	1	-	6	-
EMB & PZA	5	-	1	-	1	-	-	2	1
Other drug(s)	2	1	-	1	-	-	-	-	-
INH & SM & RMP	2	-	1	-	-	-	1	-	-
INH & EMB & RMP	27	3	15	3	-	1	-	3	2
INH & SM & PZA	1	-	1	-	-	-	-	-	-
INH & EMB & PZA	5	1	3	-	-	-	-	1	-
INH & RMP & PZA	188	45	116	9	5	1	2	4	6
SM & RMP & PZA	1	-	1	-	-	-	-	-	-
EMB & RMP & PZA	6	2	4	-	-	-	-	-	-
INH & EMB & other drug(s)	1	-	-	1	-	-	-	-	-
SM & EMB & other drug(s)	1	-	-	1	-	-	-	-	-
EMB & RMB & other drug(s)	1	1	-	-	-	-	-	-	-
RMP & PZA & other drug(s)	1	-	-	1	-	-	-	-	-
INH & SM & EMB & RMP	6	1	5	-	-	-	-	-	-
INH & SM & RMP & PZA	34	5	27	1	-	-	-	-	1
INH & EMB & RMP & PZA	377	112	183	16	20	5	8	6	27
SM & EMB & RMP & PZA	2	1	-	-	-	1	-	-	-
INH & EMB & RMP & other drug(s)	1	-	-	1	-	-	-	-	-
INH & EMB & PZA & other drug(s)	1	1	-	-	-	-	-	-	-
INH & RMP & PZA & other drug(s)	1	-	-	1	-	-	-	-	-



**Table 27** *Cont'd***Treatment outcome status by treatment regimen – Canada: 1998**

Treatment regimen	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
EMB & RMP & PZA & other drug(s)	1	-	1	-	-	-	-	-	-
INH & SM & EMB & RMP & PZA	23	7	11	2	1	-	2	-	-
INH & SM & RMP & PZA & other drug(s)	3	3	-	-	-	-	-	-	-
INH & EMB & RMP & PZA & other drug(s)	13	6	4	-	2	-	-	1	-
Unknown	985	-	2	33	3	-	-	2	945
<b>Total</b>	<b>1791</b>	<b>199</b>	<b>450</b>	<b>78</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>25</b>	<b>982</b>

**Table 28****Treatment outcome status by major mode of treatment – Canada: 1998**

Major mode of treatment	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
DOT (daily/intermittent)	344	93	204	12	4	3	3	11	14
Daily – self administered	442	98	231	19	28	6	6	12	42
Other	48	7	15	16	3	-	4	2	1
Unknown	957	1	-	31	-	-	-	-	925
<b>TOTAL</b>	<b>1791</b>	<b>199</b>	<b>450</b>	<b>78</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>25</b>	<b>982</b>

**Table 29****Treatment outcome status by compliance estimate – Canada: 1998**

Compliance estimate	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
≥ 80%	724	192	432	30	19	1	11	8	31
50–79%	23	1	6	2	2	4	-	7	1
< 50%	10	-	-	1	2	3	-	4	-
Unknown	1034	6	12	45	12	1	2	6	950
<b>TOTAL</b>	<b>1791</b>	<b>199</b>	<b>450</b>	<b>78</b>	<b>35</b>	<b>9</b>	<b>13</b>	<b>25</b>	<b>982</b>

## APPENDIX III

### ESTIMATED INCIDENCE OF TB, 23 HIGH-BURDEN COUNTRIES: 1999

Rank	Country	Estimated cases	Population	Rate per 100,000
1	India	1,847,000	998,055,828	185.1
2	China	1,300,000	1,266,838,226	102.6
3	Indonesia	590,000	209,254,737	282.0
4	Nigeria	327,000	108,945,056	300.2
5	Bangladesh	306,000	126,947,104	241.0
6	Pakistan	269,000	152,330,653	176.6
7	Philippines	234,000	74,454,194	314.3
8	Ethiopia	228,000	61,094,519	373.2
9	South Africa	197,000	39,900,258	493.7
10	Russian Federation	181,000	147,195,504	123.0
11	Congo – DR	151,000	50,335,347	300.0
12	Vietnam	149,000	78,705,124	189.3
13	Kenya	123,000	29,549,205	416.3
14	Brazil	118,000	167,987,960	70.2
15	Tanzania, U. Rep.	112,000	32,792,556	341.5
16	Thailand	86,000	60,856,253	141.3
17	Mozambique	79,000	19,285,779	409.6
18	Myanmar	76,000	45,059,198	168.7
19	Uganda	72,000	21,143,118	340.5
20	Afghanistan	71,000	21,923,463	323.9
21	Zimbabwe	65,000	11,529,116	563.8
22	Cambodia	61,000	10,945,289	557.3
23	Peru	58,000	25,229,501	229.9
<b>Total high-burden countries</b>		<b>6,700,000</b>	<b>3,760,358,000</b>	<b>178.2</b>
<b>Global total</b>			<b>5,975,045,000</b>	<b>140.9</b>

Source: WHO Report 2001 – Global Tuberculosis Control (WHO/CDS/2001.287)

# APPENDIX IV

## POPULATION ESTIMATES: 1999

Population estimates by gender and age group – Canada and provinces/territories: 1999

<b>TOTAL</b>												
	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.
< 1	344,671	5,303	1,565	9,804	7,836	77,014	132,252	14,428	12,894	37,650	44,116	437
1 - 4	1,532,347	22,951	6,829	43,354	34,217	351,352	594,730	63,154	56,257	159,891	191,939	1,773
5 - 14	4,089,065	72,497	19,954	124,306	98,138	926,497	1,551,221	165,886	158,912	434,987	517,587	4,945
15 - 24	4,090,348	83,820	19,616	126,200	105,453	985,327	1,492,715	157,436	152,009	424,678	528,048	4,199
25 - 34	4,563,570	81,490	18,921	136,813	111,792	1,059,001	1,768,275	162,641	135,695	459,042	612,034	5,294
35 - 44	5,219,147	91,486	21,748	158,361	126,730	1,292,206	1,951,880	181,932	160,144	523,988	693,618	6,450
45 - 54	4,072,201	79,268	18,464	129,420	105,487	1,044,579	1,503,788	143,376	118,125	363,234	554,919	4,751
55 - 64	2,652,604	47,300	11,897	84,985	66,183	688,740	1,001,665	94,133	82,906	219,125	350,278	2,244
65 - 74	2,127,508	34,731	9,421	65,737	52,431	537,920	819,552	80,812	75,734	165,296	283,322	1,050
75 +	1,605,125	26,725	8,590	57,194	44,426	372,439	598,225	74,315	72,995	122,073	226,916	484
<b>TOTAL</b>	<b>30,567,962</b>	<b>545,571</b>	<b>137,005</b>	<b>936,174</b>	<b>752,693</b>	<b>7,335,075</b>	<b>11,414,303</b>	<b>1,138,113</b>	<b>1,025,671</b>	<b>2,909,964</b>	<b>4,002,777</b>	<b>31,627</b>
<b>Male</b>												
< 1	176,785	2,664	836	5,107	4,081	39,574	67,716	7,412	6,577	19,282	22,604	232
1 - 4	785,987	11,763	3,581	22,222	17,715	179,407	304,866	32,316	28,702	82,501	98,920	929
5 - 14	2,096,862	37,098	10,145	63,805	50,267	473,843	796,529	85,106	81,413	223,303	265,588	2,571
15 - 24	2,093,641	42,897	9,934	63,945	54,102	504,900	762,477	80,732	78,221	218,675	269,877	2,231
25 - 34	2,305,822	40,242	9,465	67,896	56,651	541,688	885,340	83,115	68,308	235,267	308,816	2,615
35 - 44	2,616,118	45,085	10,772	78,582	63,574	651,512	971,284	91,849	80,938	266,665	346,976	3,236
45 - 54	2,031,125	39,764	9,187	64,448	52,794	518,904	743,984	71,751	60,006	185,335	278,616	2,585
55 - 64	1,307,156	23,795	5,898	41,994	32,856	335,493	491,755	46,550	40,987	110,187	174,721	1,240
65 - 74	988,312	16,664	4,435	30,175	24,204	242,483	380,303	37,440	35,976	79,539	135,716	590
75 +	600,306	10,664	3,180	20,977	16,737	130,952	224,209	28,053	28,861	47,372	88,717	198
<b>TOTAL</b>	<b>15,002,114</b>	<b>270,636</b>	<b>67,433</b>	<b>459,151</b>	<b>372,981</b>	<b>3,618,756</b>	<b>5,628,463</b>	<b>564,324</b>	<b>509,989</b>	<b>1,468,126</b>	<b>1,990,551</b>	<b>16,427</b>
<b>Female</b>												
< 1	167,886	2,639	729	4,697	3,755	37,440	64,536	7,016	6,317	18,368	21,512	205
1 - 4	746,360	11,188	3,248	21,132	16,502	171,945	289,864	30,838	27,555	77,390	93,019	844
5 - 14	1,992,203	35,399	9,809	60,501	47,871	452,654	754,692	80,780	77,499	211,684	251,999	2,374
15 - 24	1,996,707	40,923	9,682	62,255	51,351	480,427	730,238	76,704	73,788	206,003	258,171	1,968
25 - 34	2,257,748	41,248	9,456	68,917	55,141	517,313	882,935	79,526	67,387	223,775	303,218	2,679
35 - 44	2,603,029	46,401	10,976	79,779	63,156	640,694	980,596	90,083	79,206	257,323	346,642	3,214
45 - 54	2,041,076	39,504	9,277	64,972	52,693	525,675	759,804	71,625	58,119	177,899	276,303	2,166
55 - 64	1,345,448	23,505	5,999	42,991	33,327	353,247	509,910	47,583	41,919	108,938	175,557	1,004
65 - 74	1,139,196	18,067	4,986	35,562	28,227	295,437	439,249	43,372	39,758	85,757	147,606	460
75 +	1,004,819	16,061	5,410	36,217	27,689	241,487	374,016	46,262	44,134	74,701	138,199	286
<b>TOTAL</b>	<b>15,294,472</b>	<b>274,935</b>	<b>69,572</b>	<b>477,023</b>	<b>379,712</b>	<b>3,716,319</b>	<b>5,785,840</b>	<b>573,789</b>	<b>515,682</b>	<b>1,441,838</b>	<b>2,012,226</b>	<b>15,200</b>

TOTAL	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
	30,567,962	545,571	137,005	936,174	752,693	7,335,075	11,414,303	1,138,113	1,025,671	2,909,964	4,002,777	31,627	67,613
<b>Canadian-born</b>													
Aboriginal	<b>Atlantic region</b>												
Status Indian	537,100	20,100			56,200	110,100	81,400	74,700	76,500	99,300	5,800	12,900	
NSI/Métis	637,400	32,400			105,800	188,800	57,600	43,100	104,700	98,700	1,600	4,500	
Inuit	59,600	9,000			10,200	6,300	900	600	3,400	2,300	200	26,700	
Total Aboriginal	1,234,000	61,500			172,200	305,100	139,900	118,400	184,700	200,300	7,600	44,200	
Non-Aboriginal	23,645,260	2,222,845			6,423,694	8,159,928	858,635	852,926	2,294,589	2,792,102	20,590	20,051	
<b>Total</b>	24,879,260	<b>2,284,345</b>				6,595,894	8,465,028	998,535	971,326	2,479,289	2,992,402	28,190	64,251
		535,864	132,220	889,727	726,534								
<b>Foreign-born (WHO region)</b>													
Africa	169,723	327	152	1,499	834	23,679	91,744	4,331	1,748	13,465	31,730	107	107
Americas	891,064	1,654	793	7,751	4,339	122,910	483,439	22,851	9,056	70,768	116,384	563	557
East Mediterranean	339,882	660	306	3,012	1,673	47,549	183,560	8,662	3,513	26,957	63,561	214	214
Europe	367,910	671	326	3,176	1,784	50,462	199,966	9,458	3,714	29,235	68,656	233	229
South East Asia	2,515,263	4,304	2,200	21,176	12,018	338,554	1,375,197	65,184	24,824	200,213	468,440	1,603	1,549
Western Pacific	1,132,761	2,089	1,007	9,827	5,507	155,928	614,973	29,075	11,484	89,980	221,468	716	707
Other/unknown	725	1	1	6	3	98	396	19	7	58	135	0	0
<b>Total</b>	5,417,326	9,707	4,785	46,447	26,159	739,181	2,949,275	139,578	54,345	430,675	1,010,375	3,437	3,362
<b>Source(s):</b> Canada: Demography Division, Statistics Canada Aboriginal: Projected – Indian and Northern Affairs Canada Non-Aboriginal: Calculated – based on Population Estimates from Demography Division, Statistics Canada Foreign: Projected – Demography Division, Statistics Canada													

# APPENDIX V

## REPORTING FORMS

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

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

For Internal Use Only		Year    Month    Day		LCDC Number									
Date received at LCDC						Confidential when completed							
<b>Province/Territory/Patient ID</b>													
1. Reporting province/territory		2. Register case number		3. Unique identifier (may be name or patient identifier)		4. Date of birth Year    Month    Day							
						5. Sex 1 <input type="checkbox"/> M    2 <input type="checkbox"/> F							
<b>Name of Patient</b>													
6. Surname			Given Name		Birth Surname								
<b>Usual Residence</b>													
7. Number		Street		City/Town/Village		County and Health Unit							
						Postal Code    Geo Codes PR    CD    PR    HU/SC							
<b>Origin</b>													
8. 1 <input type="checkbox"/> Status Indian (registered) Lives on reserve most of the time 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 6 <input type="checkbox"/> Not Applicable 9 <input type="checkbox"/> Unknown		2 <input type="checkbox"/> Métis 3 <input type="checkbox"/> Inuit 4 <input type="checkbox"/> Other aboriginal (specify) _____ 5 <input type="checkbox"/> Canadian Born non-Aboriginal if under age 20 country of birth of mother _____ country of birth of father _____		5 <input type="checkbox"/> Foreign-Born (a) Country of Birth _____ (b) Year of Arrival in Canada _____ (c) Immigration status: (current status) 1 <input type="checkbox"/> Landed immigrant/now Canadian citizen    8 <input type="checkbox"/> Other (specify) _____ 2 <input type="checkbox"/> Refugee claimant    9 <input type="checkbox"/> Unknown 3 <input type="checkbox"/> Non-resident (migrant worker, visitor, student, illegal alien)									
<b>Diagnosis</b>													
9. Date of diagnosis Year    Month    Day		10. Diagnosis (ICD9) List Diagnoses (check all that apply)											
		<input type="checkbox"/> Pulmonary: 011.0; 011.1; 011.2; 011.3; 011.4; 011.5; 011.6; 011.7; 011.8; 011.9 <input type="checkbox"/> With Sarcoidosis: 502 <input type="checkbox"/> Miliary/Disseminated: 018.0; 018.8; 018.9 <input type="checkbox"/> Primary: 010.0; 010.1; 010.8; 010.9 <input type="checkbox"/> Pleurisy (tuberculosis): 012.0 <input type="checkbox"/> Other respiratory: 012.1; 012.2; 012.3; 012.8; 137.0 <input type="checkbox"/> Central nervous system: 013.0; 013.1; 013.8; 013.9; 137.1 <input type="checkbox"/> Abdominal: 014 <input type="checkbox"/> Bones and joints: 015.0; 015.1; 015.2; 015.7; 015.8; 015.9; 137.3 <input type="checkbox"/> Genitourinary: 016.0; 016.1; 016.2; 016.3; 016.4; 016.9; 137.2 <input type="checkbox"/> Peripheral lymph nodes (non-respiratory): 017.2 <input type="checkbox"/> Other non-respiratory (specify): 017.0; 017.1; 017.3; 017.4; 017.5; 017.6; 017.7; 017.8; 137.4											
<b>Bacillary Status</b>													
11. Check all that apply:													
Microscopy			Culture										
	Sputum	Bronchial Wash	GI Wash	Node biopsy	Urine	CSF	Sputum	Bronchial Wash	GI Wash	Node biopsy	Urine	CSF	Other
Negative													
Positive													
Not Done/Unknown													
12. Case Criteria 1 <input type="checkbox"/> Positive culture 2 <input type="checkbox"/> No positive culture, clinical diagnosis		13. Antibiotic resistance to initial positive culture 1 <input type="checkbox"/> Yes – (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    6 <input type="checkbox"/> Other (specify) _____ 2 <input type="checkbox"/> No    9 <input type="checkbox"/> Unknown			14. Date Treatment Started Year    Month    Day								
15. Initial Drugs Prescribed (check all boxes 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    6 <input type="checkbox"/> Other (specify) _____ 7 <input type="checkbox"/> No drugs prescribed 9 <input type="checkbox"/> Unknown				16. Case Finding 1 <input type="checkbox"/> Symptoms compatible with site of diagnosis    2 <input type="checkbox"/> Incidental findings    3 <input type="checkbox"/> Post-mortem 4 <input type="checkbox"/> Contact investigation    5 <input type="checkbox"/> Post-landing surveillance    6 <input type="checkbox"/> Pre-landing immigration evaluation (in Canada) 7 <input type="checkbox"/> Occupational screening program    8 <input type="checkbox"/> Other screening    9 <input type="checkbox"/> Other (specify) _____ 10 <input type="checkbox"/> Unknown									
17. First episode of TB 1 <input type="checkbox"/> Yes    2 <input type="checkbox"/> No If no: (a) Year of previous diagnosis _____ (b) Previous diagnosis occurred in: 1 <input type="checkbox"/> Canada    2 <input type="checkbox"/> Other Country: _____ (c) Previous treatment with (check all antibiotics used): 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    6 <input type="checkbox"/> Other (specify) _____				18. Patient died before completion of therapy 1 <input type="checkbox"/> Yes    1 <input type="checkbox"/> TB was the cause of death 2 <input type="checkbox"/> TB contributed to death but was not the underlying cause 3 <input type="checkbox"/> TB did not contribute to death but was an incidental finding Date of death: Year    Month    Day 2 <input type="checkbox"/> No    3 <input type="checkbox"/> Not applicable    9 <input type="checkbox"/> Unknown									
				19. HIV status 1 <input type="checkbox"/> Positive 2 <input type="checkbox"/> Negative 9 <input type="checkbox"/> Unknown									

HC/SC4368E (01-97)

DISPONIBLE EN FRANÇAIS



Health Canada / Santé Canada

CONFIDENTIAL WHEN COMPLETED

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

Treatment Outcome of a New Active or Relapsed Tuberculosis Case

Tuberculosis Control Office of Special Health Initiatives Laboratory Centre for Disease Control Room 01055, Brooke Claxton Building Internal Address Locator: 09005 OTTAWA ON K1A 0L2

Form header section containing fields for Date received at LCDC, Province/Territory/Patient ID, Reporting province/territory, Register case number, Unique identifier, Date of birth, Sex, Date of diagnosis, Date initial treatment started, Initial drugs prescribed, Name of Patient (Surname, Given Name, Birth Surname).

Guidelines for Completing the Treatment Outcome Form. This form is for optional use. When a majority of provinces/territories reporting a majority of TB cases opt to record treatment data, it will be published nationally. This form is to be completed twelve months after the date of diagnosis by the diagnosing province. Please complete this form even if treatment is still in progress after twelve months, describing the status at twelve months after starting treatment until the case is closed, to provide an annual report. If the patient has transferred to another province/territory after diagnosis (and registration by diagnosing province/territory) and is receiving treatment there, the treating province/territory will please forward a copy of the outcome form to the diagnosing province/territory to facilitate reporting of the treatment outcome information. COMPLETING OF THE FORM: Serial Number: Please copy the serial number from the 'Active Tuberculosis Report Form - New and Relapsed Cases'. Items 1 to 9: These items can be copied from the 'Active Tuberculosis Report Form - New and Relapsed Cases'. Please copy these items from that form, either at time of diagnosis or when completing this treatment outcome form. Items 7 & 8, Initial Treatment Date / Initial Drugs Prescribed: If this treatment outcome is being completed 24 months after diagnosis (due to failure, transfer etc.) and a treatment outcome form has already been completed at 12 months, please indicate date of treatment / drugs prescribed for previous treatment. Items 10 to 13: These items need to be reported only if there has been a change in the information originally reported for items 1, 2, and 7. 10. Province / Territory of Treatment: If transfer from original reporting province, please state the follow-up province / territory. If original province / territory unknown, please indicate. 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 15. Did drug resistance develop during treatment? Please indicate Yes or No and check the appropriate drug(s). 16. What was the treatment outcome? (Check one only) 17. Treatment regimen (check all that apply) 18. Major mode of treatment: 19. Compliance estimate (% of medication received): 20. Last sputum smear: 21. Last sputum culture: 22. Most recent chest x-ray results: 23. Date of most recent x-ray: Year Month Day

Main body of the form with 23 numbered sections for data entry, including fields for dates, checkboxes for treatment outcomes, drug resistance, compliance, and sputum results.

HC/SC 9012E (10-97)

Copy 1 (white) - LCDC (mailing address at top right) Copy 2 (yellow) - Provincial / Territorial TB Registry

DISPONIBLE EN FRANÇAIS